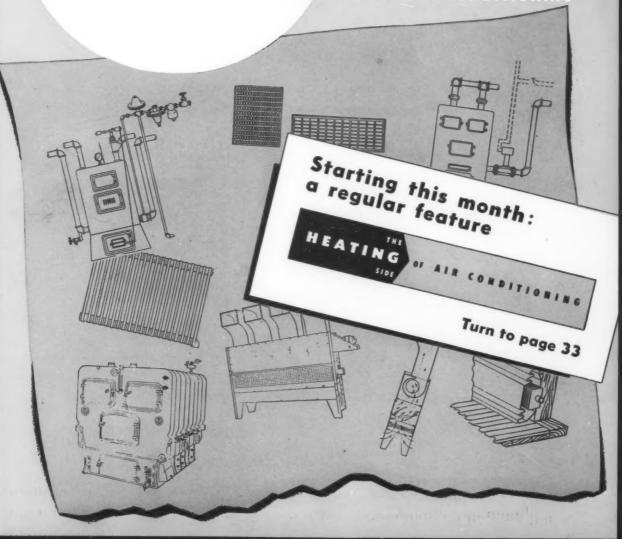
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APR 4 .52h

Commercial Refrigeration

AND AIR CONDITIONING



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REFRIGERATION SUPPLIES DISTRIBUTOR



all three agreed it would provide four definite savings

Immediately after this small Motorpump was used for recirculating water in air conditioning systems all agreed that at last they had a different pump with lower hp that would do the work of ordinary pumps of higher hp. Yes, the man who bought the air conditioning unit on which the pump was installed, the contractor who put in the system and the I-R engineer who helped design the pump found that the Motorpump offers four definite savings.

- 1. Saving in first cost
- 2. Saving in weight and space
- 3. Saving in installation costs
- 4. Saving in power costs

This remarkable Motorpump is just one of the results of 90 years of Ingersoll-Rand research and experience. The Motorpump has proved itself to be higher in efficiency and reliability when compared size for size with any other type pump used on air conditioning systems today!

Knowing this, you can't honestly afford to pass up the savings this Motorpump offers. Certainly, it's worth your investigation. For facts and figures, contact your nearest I-R distributor or representative. Meantime, write direct for this booklet, "A Picture of Improved Pumps for Air Conditioning" Ingersoll-Rand Company, 11 Broadway, New York 4, New York.

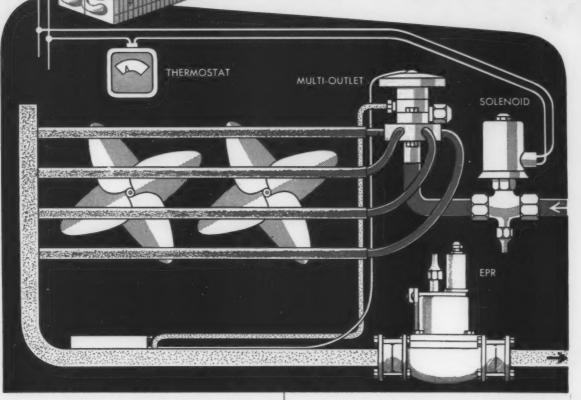
Ingersoll-Rand

90 years of BIG PUMP know-how packed into small pumps for all conditioning applications

4 MOTOR PUMP

MAKE EVERY SQUARE FOOT OF COIL SPACE "PAY OFF"!

see how a smaller coil can do a bigger job—when properly fed by this Alco combination:



TYPE "TO" MULTI-OUTLET THERMO VALVE—for individual liquid metering to each circuit. Assures you of equal distribution under high temperature, low temperature, high load, or low load conditions. Eliminates "hunting and cycling"—gives longer compressor life. Simple "come-apart" construction for easy cleaning and maintenance—without removing valve from line. Multi-Outlet valves available with from 2 to 36 outlets.

M635 SOLENOID—positive liquid stop, thermostatically controlled. Dependable, quiet operation—all internal parts made of stainless materials.

EPR 15— evaporator pressure regulator for product protection against de-humidification or "freeze-up". Maintains constant back pressure.

FOR FURTHER DETAILS, SEE YOUR ALCO WHOLESALER

-AND WRITE FOR CATALOG #19.



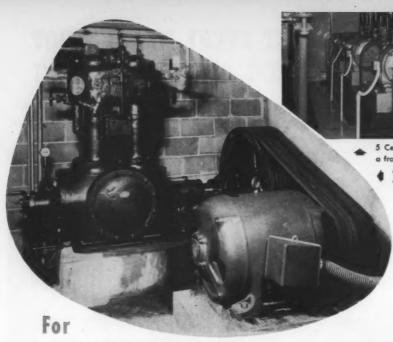
Designers and Manufacturers of Thermastatic Expansion Valves, Evaporator Pressure Regulators, Solenaid Valves, Floot Valves, Floot Switches ALCO VALVE CO.

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5 Century type SCH motors driving compressors in a frozen food plant.

Century 75 horsepower Type SCH motor driving a compressor in a skating rink.

Unusually Quiet
Starting and Running
Characteristics

REFRIGERATION COMPRESSORS

You Need the High Starting Torque of.

Century

Century Service Is Near Any Century Motor Driven Equipment. Prompt Service is offered by CENTURY'S National Network of more than 200 Authorized Service Stations, supervised by 28 Century Sales offices.

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Century Type SCH, Squirrel Cage polyphase alternating current High Torque motors are ideal for refrigeration compressor applications. They bring compressors up to speed smoothly and easily under full load.

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SEPTEMBER, 1951 . COMMERCIAL REFRIGERATION



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SEPTEMBER, 1951

VOLUME 8, No. 9

Commercial Refrigeration

AND AIR CONDITIONING

THE REFRIGERATION INDUSTRY

THIS MAGAZINE has no official affiliation with ANY group, society or association.

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Starting this montha new feature!

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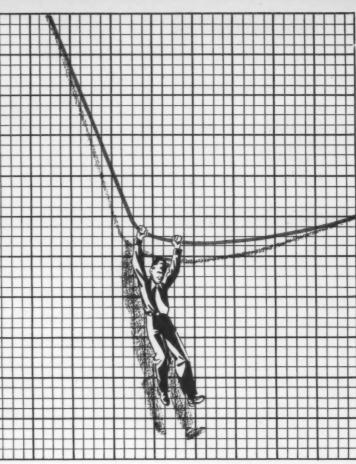
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Preventive care includes checking every application for usual and unusual features, to arrive at the correct capacity condensing unit.

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COMPRESSORS and

Write for new Cutalog 204-1 A handy guide to help you in Condensing Unit Selections



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SOLENOID VALVES

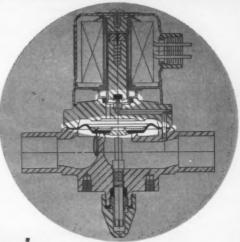
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A SERIES OF DEPENDABILITY FEATURES

19ht Seating

THESE PILOT-OPERATED VALVES have a composition main seat disc and a composition pilot seat disc. These materials were selected in cooperation with the U. S. Government and thoroughly tested in life breakdown tests.

This new JE design offers tight seating at any pressure within the operating range, and there is no "bubble tolerance" in our assembly, or testing lines. To make sure these Valves close tightly at all times, we have introduced "spring loaded" closing action.



5 Features of Dependability



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- 3 LONG LIFE Cool Coils
- DURABILITY All corrosion-resistant materials
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CONTROLS DIVISION
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and AIR CONDITIONING . SEPTEMBER, 1951

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Sell your own condensing unit . . . with coolers backed by Filtrine's 40-year dependability. 1. General acceptance for high efficiency-dependability-20-year life-span construction. 2. High capacity-super storage. 3. Handsome exterior (all Stainless Steel or Duco with Stainless trim). 4. Equipped to suit with top and/or side shelves. 5. Bubblers, glass-fillers, front, back, or all sides. 6. Can be "Taste-Master" equipped to banish chlorine and insure sparkling water.

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MC-14-8 MC-43-8



PH-14



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PACKAGED CIRCULATING CHILLED WATER SYSTEMS

Sell your own concensing unit . . . with complete Filtrine systems for circulating drinking water in offices, hospitals, industrial plants . . . for processing water as low as 34 deg. 1. Completely packaged for streamlined engineering, quick installation, 2. Capacities 5 to 400 g.p.h-Storage 5 to 150 gallons. 3. Equipped with heavy-duty pump. 4. Your condensing unit factory installed. 5. Insulation-2 inch hydrolene-sealed corkboard. 6. 20-year life-span construction. 7. Filter-Rectifier assembly (extra) to kill chlorine and keep water sparkling.

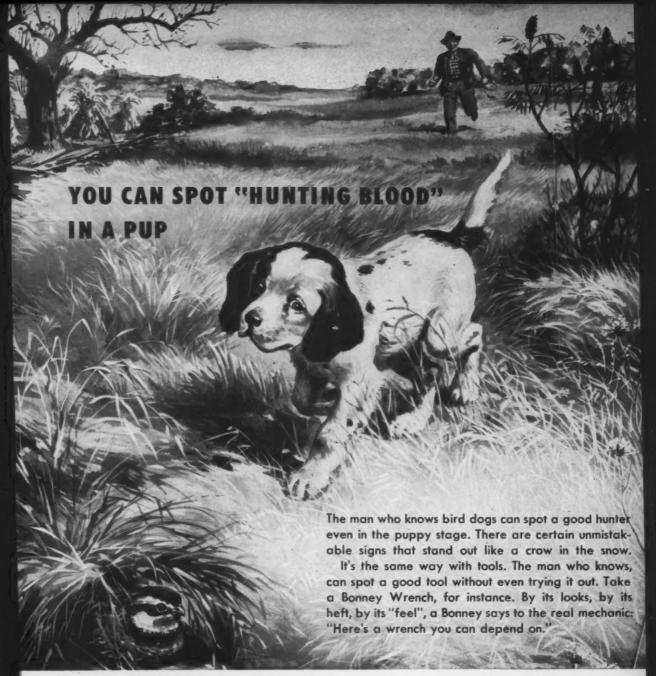


Typical "Packaged" Circulatine Chilled Water System

Get our new "How to Sell D O Jobs" Write Dept. RF2

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"CHEAP TOOLS ARE FOR CHUMPS", say men who have a feeling for tools. And to them, "Bonney" means wrenches, just as "Disston" means saws or "Arrow" means shirts. To men who know best, the Bonney name is a guarantee of lightness, strength, balance and precision... a better job, in less time, with greater safety.





■ Moisture hasn't a chance against Dryseal. It's double crimped that's why. A special, precise, mechanical double-crimp seal made at each end of the tube when it is manufactured keeps the inside dry as a bone and free from dirt. And, because of the way the seal is made, the diameter of the tube does not change. This permits it to pass through any opening large enough for the tube itself.

Dryseal is easy as pie to handle. Being dead-soft it

is easily bent with the hands. It is this same soft temper, and the ductility of the copper used, that makes Dryseal easy to flare for compression fittings without any danger of splitting. Economical tube sizes range from 1/6" to 3/4" O.D.

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NNER REFRIGERATION helps you serve better

Customer satisfaction is the only thing and everything a Refrigeration Dealer has to offer...it is his income and business future!

. another good source of store profit is longer lasting, high efficiency

REFRIGERATION

It is the condensing units in your refrigerated store equipment which actually do the work of protecting and selling merchandise. If you can stretch the dollars invested in the purchase, operation and maintenance of these refrigeration condensing units by any given per cent, that becomes added income.

Store operators keep telling us how much more satisfied they are with Brunner Refrigeration Condensing Units because ... 'they hold high refrigerating efficiency

over a longer period of years'...

power bills are less' ... 'maintenance negligible'...'quiet running' ..'dependable, don't worry about break-downs, merchandise loss.

Equal in importance to representing a topdemand product is letting the buyer know you are the source of supply.

We at Brunner recognize this fact,

therefore, have made it our business to help you do a better business. And bere is how: By designing and

manufacturing refrigeration condensing units which, by every standard of comparison, are second to none. By providing you the

customer-serving advantages of a

complete range of capacities plus

adequate manufacturing facilities to care for your requirements.

Supporting you with direct fac-

tory help in sales, engineering

and installation problems.

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Write us for Details ...

on the earning power of a **Brunner Dealer** Franchise.

It will take you about one minute to tear out this page section, attach to your card or letterhead, and mail to Brunner.

At your convenience a Brunner Dealer will call and show you the reasons why Brunner Refrigeration Condensing Units could the reasons why Brunner Retrigeration Congensing Onto C well transfer part of your refrigeration cost to store income. BRUNNER MANUFACTURING COMPANY, UTICA 1, NEW YORK, U.



Represent Brunner and do a BETTER business

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What the serviceman should know about "VIRGINIA" REFRIGERATION products

"EXTRA DRY ESOTOO"

(B.P. +14°F.)

"Extra Dry" is the refrigeration grade SO₂ that service and maintenance engineers have endorsed for more than 20 years. Comes in all popular cylinder sizes.

"V-METH-L" (B.P. -10.7°F.)

Virginia Methyl Chloride is made specifically for refrigeration use. Low moisture content, low acidity and narrow boiling range recommend "V-Meth-L" for the most exacting requirements.

"FREON" REFRIGERANTS

"FREON-113" "FREON-114" "FREON-11"
Boiling Point Boiling Point Boiling Point 117.6°F. 38.0°F. 74.7°F.

"FREON-12" "FREON-22" Boiling Point Boiling Point -21.6°F. -41.4°F.

Virginia Smelting Company is distributor for "Kinetic" Chemicals "Freon" Refrigerants and for "Suniso" Refrigeration Oils.

TO CHARGE A SYSTEM, USE REFRIGERANTS THAT ARE CONSISTENTLY PURE, CONSISTENTLY SURE

"VIRGINIA" CAN-O-GAS—THE MODERN METHOD OF CHARGING A SYSTEM

Handy, throw-away, no-deposit can. The perfect way to charge hermetic systems, water coolers, beverage coolers, vendors. Available filled with "Freon-12" (15 oz.) or "Freon-114" (16 oz.). Each can is precision-filled to make certain the refrigerant is clean and dry. Can-O-Gas features a simple, practical clip-on opener which fits small valves designed for

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COMPANY

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time when metals may be even more scarce and replacement parts even more difficult to obtain. You see, Superior never builds anything but the best. Each valve and fitting is engineered for double durability—is built to outlast the line it serves. Start saving today with Superior products!

Remember to ask your wholesaler for Superior

DETIOT valve and fittings co.



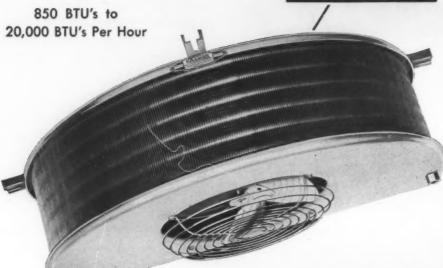
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KRAMER



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SAVES SPACE

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Uniform temperature is assured with radial air flow.

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Casings are made of polished aluminum.

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For better
AUTOMATIC CONTROLS
better check
GENERAL CONTROLS

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THERMAL EXPANSION VALVES...V-200 SERIES For high or low temperature applications suitable for Freon, Methyl Chloride or Sulphur Dioxide. Non-adjustable, adjustable and super-heat models available. External equalizer available on 5-ton models.



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V-200 . . 2 Ton



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L-59P . . Low Pressure Control



K-25 . . Magnetic Stop Valve



SY-68 . . Strainer



5C-100 . . Time Switch



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7.75 Caellan Tharmach

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... of course, it's electric!

Because they're ST CHOICE

- ... for sales and profits
- ... for economy and efficiency

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Water Cooler brand offers
so much for so little



Strong statements? They sure are! But that's industry's appraisal of the cooler situation . . . because Westinghouse leads in sales . . . which means that those who buy appreciate quality. The proof of this acceptance is in performance . . . dependable day in and day out performance. Employees and customers can always get a cool refreshing drink . . . where and when they want it. And performance is assured by these and other features:

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- PATENTED CAPACITY BOOSTER . . . means practically double the cooling capacity and at lower operating costs.
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- 5-YEAR GUARANTEE PLAN... on the entire Hermetically-Sealed System.
- STAINLESS STEEL TOPS . . . for better appearance, cleanliness and long life.
- SPACE-SAVING . . . no model takes over 14" x 14" floor space.

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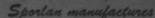
City

State

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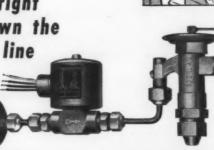




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MODULATING PILOT CONTROLS - REFRIGERANT DISTRIBUTORS
STRAINERS - CATCH-ALLS
and the Only THERMOSTATIC EXPANSION VALVES
with PLOWMASTER ELEMENTS and SELECTIVE CHARGES

for PEAK PERFORMANCE

on all installations
...buy Sporlan
right
down the



DAVE--THE DAIRY FARMERS RED-IF YOU'D ONLY OUTSIDE THIS TOWN TRY SPORLAN CATCH- 6 WILL RUIN ME WITH THEIR @X=X YOU COULD LONG-HAUL MAKE MONEY CALL-BACKS! ON THOSE FIRST IT'S MILK COOLER JOBS DIRT-THEN IT'S MOISTURE:

THERE YOU GO AGAIN—CATCH-ALLS—CATCH-ALLS—CATCH-ALLS—CATCH-ALLS—WHY ARE THEY SO MUCH BETTER FOR DIRT AND MOISTURE PROBLEMS 3.

I'LL REPEAT--ONLY THE SPORLAN CATCH-ALL SPORLAN CATCH-ALL FILTER-DRIER OFFERS BOTH THE GREATEST FILTERING AREA AND THE HIGHEST DEGREE OF ACTIVATION!

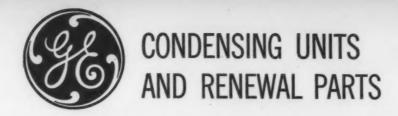
OK- OK- YOU WIN-BUT THEY BETTER BE GOOD

RED, YOU SURE SAVED MY DAYS MILK
RECEIPTS -- AND YOU'VE GOT MY
COOLER RUNNING
LIKE NEW
AGAIN!
I COULD HELP
YOU -- TOMSPORLAN CATCH-ALLS
CLEAN UP A
SYSTEMQUICK!



7525 SUSSEX AVENUE . SAINT LOUIS 17, MISSOURI

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Here's how G-E Compressors give

HIGH CAPACITY WITH LOW POWER INPUT

Thin Valve Plate
Quick Opening Valves
Low Clearance Volume at Top of Stroke
Large Gas Passages
Minimum Clearance Between Piston and Cylinder Walls

Every stroke of the piston getting full use of the piston's compression—this is G. E.'s secret to high compressor capacity with low power input. Such a reduction in waste piston effort gives you the major benefits of top performance and low operating cost.

G. E.'s thin valve plate and low clearance volume mean that practically all the compressed gas is discharged on every stroke leaving practically none behind to re-expand and be compressed again. Clearance between piston and cylinder walls is held to exacting limits. Such close tolerance, plus the constant supply of oil to cylinder walls, reduces gas blow-by and thereby results in higher efficiency. Gas friction is minimized by the large passages and quick opening valves, thus allowing refrigerant to move easily and quickly through the system.

SEALED AND Cufaway view of G. E.'s compact Type CW compressor with piston near top of stroke.

You can put your confidence in-

GENERAL 🍪 ELECTRIC

A	General Electric Company Air Conditioning Dept., Sec. CR-6 Bloomfield, New Jersey
(Please send me literature on
1	NAME
	COMPANY
-	ADDRESS
-	CITY ZONE STATE



OF HOW "REEFER" CARS CUT **EVAPORATION** LOSS ...

INSIDE STORY





• Inside the doors of Pure Carbonic's dryice "reefer" cars is a gasket of INNER-SEAL ... the only weatherstripping made differently.

As the cutaway shows, its base is live sponge rubber. That's why it compresses . . seals tighter, bounces back to shape despite the hardest slams. Never cracks like hollow strips. No wonder INNER-SEAL practically eliminated evaporation loss at temperatures of -110° F. in these cars.

As you can see, the flange is woven

spring-wire . . . so flexible that it fits sharp corners like a glove. Final protection is a waterproof neoprene coating . . , resistant

to sub-zero or tropic temperatures, grease, oil, sunlight and abrasion.

FREE samples . . . data on sizes, shapes, colors, scores of locomotive, passenger and "reefer" car uses.

STROBOSCOPE OF "JUMP TEST" PROVES IT

SEALS TIGHTER, LASTS LONGER!

Springy live-rubber's the rea-son. Action-stopping stroboscope photos prove it. Both ends of a strip were pressed together, then released ... resulting in the lively spring







STAYS LIVELIER LONGER ... SAVES MORE FUEL

BRIDGEPORT FABRICS, INC., BRIDGEPORT 1, CONN.

Circle No. 18 on Reader Service Card for more information

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YOU GET THE GREATEST SERVICE FROM

Prest-O-Lite CYLINDERS

FOR REFRIGERANT GASES



HERE'S WHY:

Superior Quality

You're assured the best in cylinder design and production because of an unsurpassed "know-how" gained through more than 35 years of experience and skill by the largest manufacturer and user of compressed gas cylinders.

2 Longer Life

Many extra years of trouble-free life—and added resistance to denting, piercing, and corrosion—result from the stronger walls and durable construction.

3 Lighter Weight

Transportation costs are reduced, and the cylinders are easier to handle, because there are no extra-thick sections that only add weight without adding strength.

4 Uniform Wall Thickness

This advantage is worth special consideration. Unusually close tolerances in wall thickness mean greater overall protection.

5 They Surpass Code Requirements

You know sturdy PREST-O-LITE Cylinders will never let you down because they're made, tested, and inspected not only in accordance with I.C.C. Specifications, but they also undergo our own rigid tests far beyond standard requirements.

35-lb. capacity

PREST-O-LITE cold-drawn cylinders for refrigerant gases are available in 5-lb. (rounded bottom or with foot ring), 10-lb., 25-lb., and 35-lb. sizes. You can have 50-lb., 100-lb., 150-lb. or special sizes and styles made to your specifications. Save more money in the long run by using the finest cylinders. Just mail the coupon today for complete information.

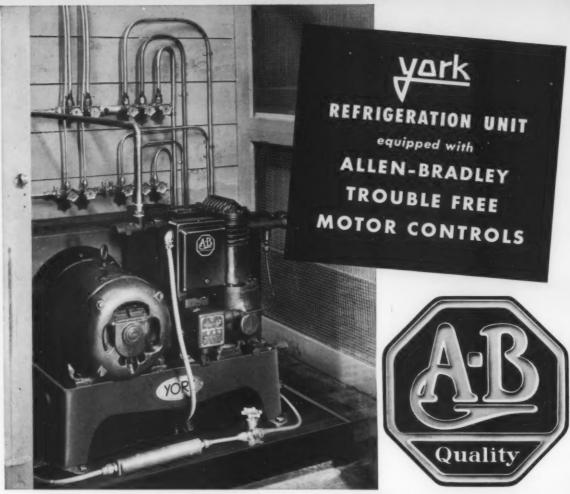
"Prest-O-Lite" is a registered trade-mark of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS COMPANY

A DIVISION OF
UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street III New York 17, N. Y.

Offices in Other Principal Cities
In Canada:
DOMINION OXYGEN COMPANY, LIMITED, Toronto

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New York 17, N. Y.		
Please send full information refrigerant gases.	about PREST-O-LITE	Cylinders for
NAME		
COMPANY		
ADDRESS		*******



A York Compressor equipped with an Allen-Bradley Bulletin 709 Automatic Starter installed in an Atlantic and Pacific Store in Boston.

Why are Allen-Bradley starters so popular for refrigeration and air-conditioning service? . . . Because they are trouble free. Only ONE moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

No contact maintenance . . . Allen-

Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

Dependable overload relays . . . Allen-Bradley thermal relays are accurate and always dependable . . . even after long service.

The Allen-Bradley trade-mark stands for millions of trouble free operations.

Allen-Bradley Co., 1340 S. Second St., Milwaukee 4, Wis.



A-B Bulletin 709 Solenoid Starter

Size 1 starter with cover removed. Dependable relays provide accurate overload protection. Note white interiors and ample space for ease of wiring. A-B Special Refrigeration Control Unit

Consists of Bulletin 709 solenoid starter, Bulletin 836 high pressure cutout, Bulletin 837 thermostat with adjustable knob, and Bulletin 600 manual switch.



ALLEN-BRADLEY SOLENOID MOTOR CONTROLS

Circle No. 20 on Reader Service Card for more information

SEPTEMBER, 1951 . COMMERCIAL REFRIGERATION



-AND GREATER SALES FOR YOU, TOO

THIS FULL-PAGE **ADVERTISEMENT** is appearing in:

SUPER MARKET MERCHANDISING -NOV.

FOOD TOPICS-NOV. 12 CHAIN STORE AGE-DEC. NATIONAL GROCERS' BULLETIN

and as Two-Page Spread in:

MEAT MERCHANDISING-NOV. PROGRESSIVE GROCER—DEC.





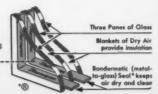
You can cash in on a healthy user-preference for refrigerated cases equipped with Thermopane* insulating glass. We've been helping build this demand for you, month after month, year after year, with a steady stream of advertising messages addressed to your customers, in the publications they read.

Talk Thermopane. Sell Thermopane. Chances

are it's in the cases you sell-most leading manufacturers use it today. Be sure you point it out. And to help you tie in with this continuing promotion, we'll be glad to send you reprints of this and other advertisements in the series. Write us direct-limited quantities available free. Libbey Owens Ford Glass Co., 2991 Nicholas Building, Toledo 3, Ohio.



- FOR BETTER VISION SPECIFY THERMOPANE MADE WITH POLISHED PLATE GLASS



really gives you something extra

a few of many outstanding advantages













- N PACKLESS VALVES, still the only Balanced-Action valve on the market—no extra cost
- N STRAINERS, forged brass end caps with integral fittings, reinforced screen, large filtering area, distortion-proof clean-out flange
- N DRIERS, forged brass end caps with integral fittings, natural finish, Abso-Dry pressure sealed, dispersion tube and
- N wing CAP VALVES, greater flow, bolted bonnet and self-aligning stem disc
- N RELIEF VALVES, diaphragm construction, positive controlled cushion reseating with relief capacity that meets latest code requirements
- N AMMONIA VALVES, compact and strong, self-aligning stem disc

IN ALL HENRY PRODUCTS—ADVANCED FIELD-PROVEN DESIGN AND CONSTRUCTION

Sold by Leading Wholesalers

NRY VALVE CO.



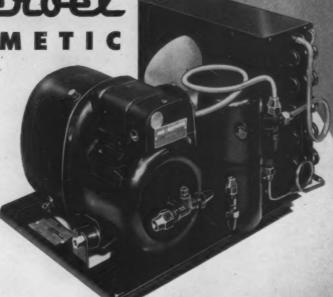
Valves · Driers · Strainers · Control Devices and Accessories for Refrigeration, Air Conditioning and Industrial Applications

MELROSE PARK, ILL. (CHICAGO SUBURB) CABLE: HEVALCO, MELROSE PARK, ILLINOIS

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choose with an eye to the future.

SUPERMETIC



To you — as a buyer, or seller, or a manufacturer of fixtures, the two most important questions about any electric condensing unit are:

- (1) How economically will it perform?
- (2) How long will it stay on the job?

Those are questions that Servel answers best. Choose Servel and you can be sure that for the job ahead, in the years ahead, you'll get unfailing performance at lowest cost. That's how Servels are built. That's how Servel has gained and maintained its nation-wide reputation for superior dependability. That's what made possible Servel's amazing 5-year Protection Plan.

To be sure you choose the best — be sure it's a Servel Supermetic.

Servel

Models for every commercial refrigeration and air conditioning use . . . 1/5 to 5 HP.

For complete information, write . . .

SERVEL, INC.

Electric Refrigeration Division

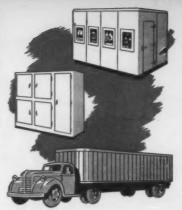
EVANSVILLE 20, IND.

No Shrinkage! No Blast!

with these new Bush Cooling Units

designed and engineered . . . fabricated of top-quality materials to rigid specifications . . . carefully tested and accurately rated. Result: easier selling, faster installation, less service . . more PROFIT. All this adds up to more customer satisfaction, and more

business for you. Get acquainted with the BUSH Factory Representative in your territory. He's an expert refrigeration and air conditioning engineer familiar with newest application techniques . . . a good man to know. He'll be glad to help with plans and specifications on your next important job.





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THE FINEST REFRIGERATION OIL... ... at any price!

THE NEW ... IMPROVED ... ANSUL REFRIGERA-TION OIL . . . IS A RESULT OF THE PERSISTENT SEARCH BY ANSUL CHEMISTS AND REFRIGERA-TION TECHNICIANS FOR THE FINEST OUALITY REFRIGERATION OIL . . . AT ANY PRICE!

Since Ansul Refrigeration Oil was introduced in 1949 ... its acceptance by refrigeration men has continued to expand. In only two short years Ansul is one of the leading refrigeration oils sold exclusively through Refrigeration Wholesalers.

The New . . . Improved Ansul Refrigeration Oil is now available at leading refrigeration wholesalers everywhere. It meets, or surpasses, every specification established by Ansul Research for a high quality refrigeration oil.

BUY IT AT THE NEW LOW PRICE. Use it for more dependable, trouble-free lubrication.

NOTE THESE IMPORTANT ANSUL FEATURES —

- · Lower floc point.
- e *50% lower wax content.
- Moisture ANSUL CONTROLLED mini-
- · *Lower pour point.
- Rigidly checked for high stability.
- *Lowest affinity for moisture.
- · New low price.
- Available in quart, 1-gallon and 2-gallon cans; also in 5-gallon and 55-gallon steel con-

*Improved features

REFRIGERATION DIVISION

MARINETTE, WISCONSIN

ANSUL SULFUR DIOXIDE . ANSUL METHYL CHLORIDE

ANSUL OIL · KINETIC "FREON" REFRIGERANTS · ALSO MANUFACTURERS OF INDUSTRIAL CHEMICALS · DRY CHEMICAL FIRE EXTINGUISHERS

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Now More Than Ever

It's Guntin for PR



Because Most
Installations
are Within the
Curtis Range
— 2 through
40 Tons



10 and 15 Ton Complete CENTRAL TYPE

Evaporative Condensers, Cooling Towers and Air Handling Units



2 through 8 Ton PACKAGED UNITS (Shipped to you completely assembled)

With these units,
you can handle any
AIR CONDITIONING —
REFRIGERATION or AIR
MOVING JOB within this range
— and when the job is sold, it
STAYS SOLD because the QUALITY
IS THERE. No corners have been cut in the
manufacture of Curtis equipment — pound
for pound, it's the best buy in the industry.

VISIT OUR EXHIBIT ... 7th All-Industry Refrigeration and Air Conditioning Exposition, November 5-8, 1951. Booth Numbers 431-435-436-442.



4 H.P. through 40 H.P. Condensing Units.

Advertising Support A-Plenty

SATURDAY EVENING POST

TIME

NEWSWEEK

and many special consumer publication: are pre-selling Curtis equipment to your prospects.



97 Years of Successful Manufacturing NOTE — A Curtis franchise may be open in your area.

R-51-1

Pin this to your letterhead and mail

CURTIS REFRIGERATING MACHINE DIVISION

of Curtis Manufacturing Company 1915 Kienlen Avenue

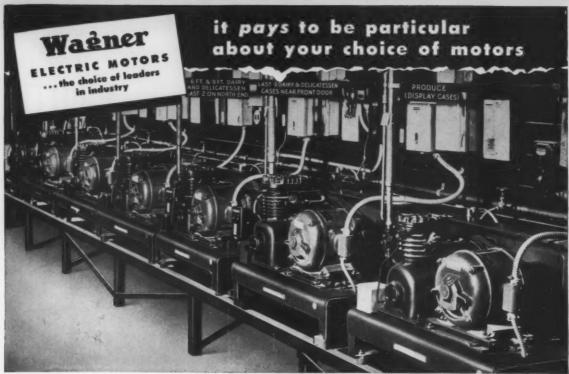
1915 Kienlen Avenue St. Louis 20, Missouri

I am interested in Curtis line.
Please send me complete information.

Curtis

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and AIR CONDITIONING . SEPTEMBER, 1951





you can count on

Wagner motors

to furnish dependable power for your products

"A good motor is one I seldom hear about—and a good motor manufacturer is one who provides prompt honest service for the few motors I do hear about." These words, from the Service Manager of one of the large manufacturers who use thousands of Wagner Motors each year as standard equipment for their products, pretty well sum up the reasons why it will pay you to standardize on Wagner Motors.

You get motors that give uniform performance with exceptionally little trouble...you get well-known motors that add a real selling point to your product... and you get the advantage of a large nationwide service organization to promptly and efficiently repair the very few motors that require attention.

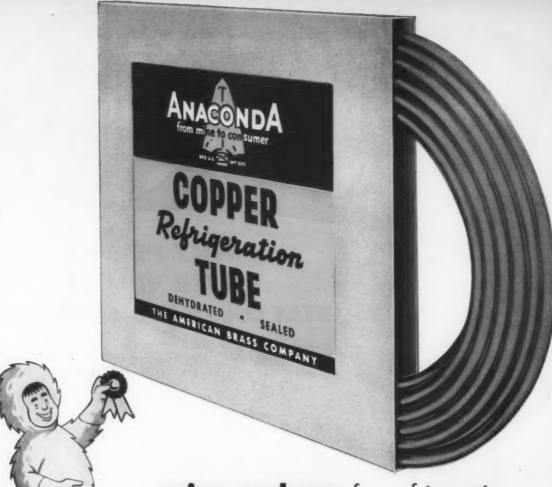
WAGNER ELECTRIC CORPORATION 6442 Plymouth Ave., St. Louis 14, Mo., U.S.A.

ELECTRIC MOTORS - TRANSFORMERS - INDUSTRIAL BRAKES AUTOMOTIVE BRAKE SYSTEMS - AIR AND HYDRAULIC

BRANCHES IN 31 PRINCIPAL CITIES

Flectric Corporation

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prize package for refrigeration

Clean, dry. Dehydrated even in excess of A.S.R.E. requirements. Mirror-smooth inside surface. Makes solid seats.

Uniform cross section.

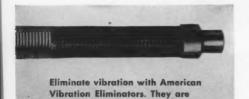
Uniform softness.

Tube ends sealed.

Packed in strong, distinctive carton.

50-ft. coils.*

ALL the refrigeration tube qualities you want in ONE package!



easy to install, absorb line vibration from compressor.

*AnacondA Dehydrated Copper Refrigeration Tubes are also obtainable in other length calls and extra-long lengths (length depending on tube size).

Ask your wholesaler for ANACONDA Refrigeration Tubes and American Vibration Eliminators for refrigeration, air conditioning and for general use. Made by The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.

for consistent uniformity—ask for

ANACONDA

REFRIGERATION PRODUCTS

Circle No. 28 on Reader Service Card for more information



WHY PENN WATER VALVES STAY ON THE JOB LONGER

It's really very simple... yet so very effective. PENN's unique design incorporates two nylon-reinforced synthetic rubber diaphragms (shown in the cut-away view) to keep water out of the bellows, range spring and sliding parts.

Thus, these important "working parts" are free from the destructive effects of sedimentation and abrasive deposits which cause premature wear and water valve failure.

But that's not all! The scientific design of the PENN Series 246 water valve eliminates water hammer...sticking of seats...need for lubrication. And, it is highly sensitive to changes in refrigerant head pressures to assure highest efficiency.

These better PENN Series 246 water valves are built in sizes from \(^{8}''\) to $2\frac{1}{2}''$ and in flanged or threaded styles. Ask your wholesaler or write **Penn Electric Switch Co., Goshen, Indiana.** Export Division: 13 E. 40th Street, New York 16, N. Y., U.S.A. In Canada: Penn Controls Limited, Toronto, Ontario

EXTRA FEATURE Featur

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES
Circle No. 29 on Reader Service Card for more information

NEWS-LAWS-TRENDS

MEDICAL REFRIGERATION continues to advance. At a recent meeting of the Medical Alumni Association of the University of Colorado, Dr. Henry Swan, head of the school's surgery department, reported that research men have found a method to quick-freeze sections of living human artery for use later in patching clogged bloodlines. This is said to be the first time that science has frozen, then restored adult tissue. Heretofore successful freezing of living tissue has been accomplished only with embryonic or cancerous tissue. The quick-freeze method, Dr. Swan said, appears to offer the possibility of indefinite storage. It is still being investigated.

FRESH FOOD FOR FOUR YEARS, without the use of refrigeration—that's the word we get in a recent news story. But before you get ready to go out of business on the basis of this information, here's something you ought to know. The equipment that replaced refrigeration in the instance mentioned above is a capacitron, which bombards the food with streams of electrons. Both food quality and taste are preserved by this method, we hear—but both the initial cost of the equipment and the upkeep are, we imagine, considerable. This substitute for refrigeration, for the time being at least, shouldn't have top-priority on our "worry" list.

REFRIGERATED DISPLAY COUNTERS are gaining in popularity in Denmark, the magazine World Refrigeration reports. The type used comprise a plate evaporator with refrigerant circulating inside and holding the plate surface at a temperature of about 32 F. These installations, the magazine says, are proving quite popular with baker, butchers and confectioners. Since the unit is not enclosed, no insulation is required and there is no trouble with fogged windows, it is reported.

AN INSULATED CONTAINER in which frozen foods may be stored safely up to 12 hours without refrigeration is a new development by Owens-Corning Fiberglas. Called the Transafe, it consists of a standard, slotted corrugated container whose top, bottom, sides and ends contain 1-inch-thick slabs of insulation. In addition to being suitable for use in transporting frozen foods from local warehouses to stores, hotels, restaurants and such-like, it also can be used as a temporary back-room storage facility for frozen food packages in retail stores, for pushing "spot specials" on the sales floor, or as a container in making home deliveries. Officials say test indicate that foods can be held at —5 to 0 F for up to 6 hours in an atmosphere of 100 F and 75% relative humidity, and for over 12 hours at 70 to 75 F temperatures.

SOMETHING NEW in the way of a refrigerator-dining table combination has been designed recently in Australia, we learn. The refrigerator, built into a dining table, has special space for cooling salads, fruits, etc., under glass. The diner lifts a little door to take out food as required. Total storage capacity is comparable with ordinary household refrigerators used in Australia—and plug-in outlets are provided for toaster, hotplate, and the like.

FROZEN FOODS AND DRUGS sell side-by-side in the new "super drug-food market of the future" being operated jointly (in Santa Ana, Calif.) by Owl-Rexall Drugs and Mayfair Markets of Los Angeles to give housewives a one-stop retail shopping mart. The store has 64 feet of Tyler open type frozen food cases and a meat-delicatessen section, self-service, 150 feet long. All types of fresh fruits and vegetables, drugs and toiletries, baked goods, liquors, household wares, toys, gifts, etc. are carried, with everything self-service but the prescription department.

specify ACME

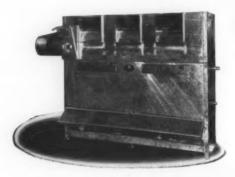
for increased efficiency, economy and long life

ACME Products have been manufactured continuously for more than 30 years. ACME Products are universally accepted and noted for their dependability and fine workmanship. ACME published ratings are accurate and conservative. ACME'S 30 years of engineering experience gives you economy, long life and increased efficiency on which you can build a greater volume of business and increased profits.

EVAPORATIVE CONDENSERS AND HEAVY DUTY COOLING TOWERS

1. Heavier, extra strong construction for durability. 2. Complete moisture elimination for dry fan operation. 3. Save more than 90% of the water required. 4. Built in 3 sections for easy shipment and installation. 5. Flexible fan arrangement. 6. Hot-dip galvanized after fabrication. 7. Internally mounted receivers for added storage capacity. 8. Provision for Micromet threshold water treatment. ALL the above features, with the exception of "internally mounted receivers" and "Micromet threshold water treatment" are also available in ACME Heavy Duty Cooling Towers.





BLO-COLD* INDUSTRIAL UNIT COOLERS

1. Units available for Dry Coil or Brine Spray Operation.
2. Available for flooded, direct expansion or brine operation.
3. Coils may be either prime surface or finned; tubes of copper or steel pipes. Fins aluminum or steel. Coils, steel pipes and fins may be hot-dip galvanized.
4. Vertical or horizontal discharge, easy accessibility to coils.
5. Economical to operate.
6. Air inlet front or back.

ACME ALSO MANUFACTURES: Ammonia Condensers
Froon Condensers © Shell and Coll and Shell and Tube
Condensers © Dry-Ex* Water Coolers © Hi-Peak*
Water Coolers © Fin Colls © Pipe Colls © Oil Separaters
© Liquid Receivers © Heat Exchangers ©
Flow-Cold* Liquid Chillers © Convectors

* Trade Mark

MODEL J COOLING TOWERS

Versatile — Model for all purposes.
 With or without pump.
 An ideal Jobber item, stock model can be used to meet all requirements.





ACME INDUSTRIES, INCORPORATED

JACKSON, MICHIGAN

CONTINUOUSLY SERVING THE REFRIGERATION INDUSTRY SINCE 1919

This Business of Heating . . .

In the space of the last year or so an increasing number of contractors and dealers who formerly were interested in air conditioning only from the cooling equipment side have gone into the heating side of air conditioning as well. The way these dealers look at it, heating is a natural adjunct to the cooling business they have been doing, and has the additional advantage of giving them an all-year business, less subject to the peaks and valleys which tend to go along with almost any seasonal type of operation.

Almost to a man, dealers and contractors who have added heating equipment to their established refrigeration business report that it has resulted in additional volume in their cooling equipment lines. With the extra volume from their heating activities, this has meant in most cases a decided increase in overall gross business.

But making the switch-over is more than simply saying, "let's go after some heating business." The move requires careful planning, and an awareness of some of the problems of merchandising, selling and business operation that are different in "the heating side".

Here are some of the things about the heating business that, according to dealers and contractors who are in the all-year field, it's important to keep in mind:

1. The switch-over from a cooling-only business to a heating and cooling business, while it is a natural for refrigeration men, has additional problems that you'll

need help with, especially at the beginning. In the interest of getting started with minimum time lag, it may pay you to add to your organization a man who has had some experience in heating work. His know-how will make the transition much smoother.

2. There's an advantage in doing both refrigeration and heating work as far as your skilled labor force is concerned. Generally speaking, the same mechanics who install the piping, etc., for refrigeration systems also can do the same type of work on commercial and industrial heating jobs. So the same crew can be maintained all through the year, reducing the seasonal employment problem and the disadvantages that almost always accompany it.

3. Selling is different. There's little, if any, of the dig-'em-out technique as practiced in straight refrigeration equipment selling. In the commercial and industrial end of the heating field, the general practice is to advertise for bids through architects, general contractors, and by publication in local newspapers. This means that there are seldom jobs going in that only one or two firms will know about.

Basic information on the proposed job and what it involves in the way of equipment may be included in the advertised notices. This may sometimes include, too, how much has been set aside in funds to carry out the job. Details of the job can be obtained from the proper

Continued on next page

MORE TO COME ARTICLES to follow in this department will outline and discuss some of the application, installation and design problems that contractors and dealers doing commercial and industrial heating work are apt to come across, and tell how they can be handled successfully.

Backing up this information will be experience stories about firms who are now in "both sides" of the air conditioning business, describing the methods they use to get heating business, and how they manage the various departments of their all-year operation. You can use these articles as guide-posts in organizing and operating your own business in this field.



MUELLER BRASS CO. DELUXE DRIERS

Extra-capacity cone-screen filter unequalled for efficiency in the refrigeration industry.

FORGED BRASS ENDS Heavy duty type with husky wrench flats.



Positive desiccant retainer without pressure drop.

OUTLET RETAINER SCREEN

By itself, equal to the filter elements in most ordinary driers.

> WHITE WOOL DISC Doubles filtering capacity.

DRYING AGENT Installed under strict laboratory control with sealed charging equipment.

LOCKED-IN CONE
OUTLET SCREEN
Extra capacity free
flow strainer surface.

FILTER BED
Chemically cleaned
wool mass traps fine
metallic grit or other
foreign particles.

The millions of Mueller Brass Co. Deluxe Driers that are now in service provide the kind of proof you want—proof that no other drier can approach for all-around efficiency on-the-job, and for good reason. The Mueller Brass Co. Deluxe Drier is a typical example of the dependability and quality that Mueller laboratory and development engineers have made available in so much refrigeration equipment. The famous cone screen filter greatly increases the Deluxe Driers' working life. The filter strainer unit of the Deluxe Drier removes every minute particle of foreign matter from the line—keeping the refrigerant completely clean as well as dry.

Order now from your refrigeration wholesaler.

Have these STREAMLINE products on hand for every job where you want dependable performance.







Write for catalog R-151 describing complete line of STREAMLINE refrigeration products.

STREAMLINE refrigeration products are individual and multiple packaged for complete protection.

3 LIQUID INDICATORS

FLARE FITTINGS

MUELLER BRASS CO. PORT HURON 12, MICHIGAN

Circle No. 31 on Reader Service Card for more information



STORE 'EM

Plenty of warehouse space is a "must" in a program of this sert. Coolers are located by lettered areas. Alsles make it easy to remove units for servicing.



REPAIR 'EM

Each unit is thoroughly cleaned and checked before being returned to its owner in the spring. Here is a real chance to profit from the sale of filters and other replacement parts.



REPLACE

First crack at replacement sales is a big advantage of this program. The new units still in the crates have been sold to owners whose old units were sure to cause future service trouble.

Winter storage and service can make window coolers a mighty valuable

OFF-PEAK BUSINESS

⁴⁴A good 'hot weather' item." That's the way many dealers and contractors classify the window type air conditioner.

But window coolers can be made to pay off in cold weather, too, if you set up a "Storage and Service" program like that which has been operated for the last five years by Rash-Saville-Crawford (or Refrigerator Service Corp.), aggressive sales and service organization in Cincinnati, Ohio.

Here's the plan in a nutshell. You promote present owners of window coolers on the idea of having you remove their units in the fall, store them during the winter, and give them a complete service check before installing them again the following spring.

A program of this sort is a natural both for the dealer and for the owners.

It keeps the owners happy because it:

 gets their units out of the way during the period when they are not in use;

(2) ensures the units being kept in tip-top condition at from season to season; and

(3) minimizes the possibility of their being left stranded by a hot-weather breakdown.

And the dealer can't miss on a program of this sort, either, for it:

provides a welcome chunk of "plus" revenue;
 enables him to fill in the seasonal wintertime

(2) enables him to fill in the seasonal wintertime "valley" in service operations, thus helping him hold a constant service force the year around;

(3) helps him level off the summertime hump of rush service calls on equipment which should have been cared for before hot weather started; and

(4) keeps him in periodic touch with his customers and

Want to boost your winter volume?

Here's how – just turn the page...

their equipment, thus providing him with the best possible sort of leads for the sale of replacement units or additional equipment.

For R-S-C this storage-and-service program has provided still another benefit by helping pick up the slack in the company's overall business volume which had been brought about by the gradual decline in the servicing of domestic refrigerators as the number of hermetic units in the field increased.

Evidence of the plan's popularity is the fact that when the program was started five years ago the company drew a 50% response to its initial promotion. This percentage has dropped off some since then, however, as more and more units have been put out into the field.

Last winter R-S-C stored some 400 units, many of these for commercial users with perhaps 5 or 10 units in a single suite of offices.

Continued on page 66

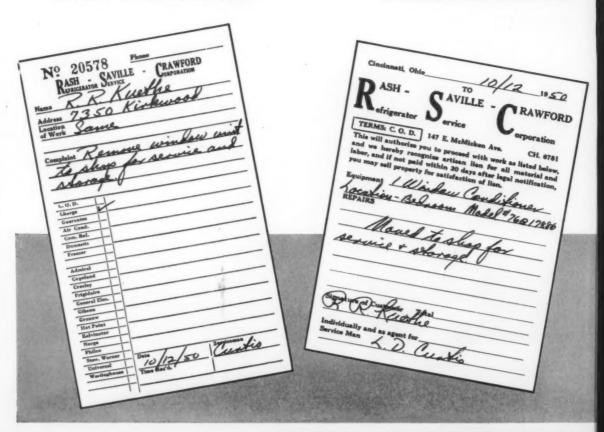
Detailed "paper work" keeps program operating smoothly

CALL SLIP notes the nature of the job, along with customer's name and address, date, and the name of the serviceman. This is initial step in record system.

Promotion letters catch customers "coming and going"

- WINTER STORAGE is plugged by letters like this, sent out in mid-October to the company's complete list of window cooler owners. Last year 1500 letters were sent, 400 units stored.
- SPRING SERVICE business is solicited in mid-March with letters like this. Bargain rate of 20% off on all work completed before May 1 helps forestall flood of hot-weather service calls.

RECEIPT filled out in duplicate provides both customer and company with a record of the transaction, and serves as authorization for the work to be done.



We are again offering our air conditioner storage service which has prevent satisfying to our many customers who have taken adventage of this service; previous years. The following is a complete limiting of this service; Previous years. The relicoring is a complete ximulage of this mervice;

We will remove your air conditioner and bring some to our shop for operation;

storage During this sterage period we will perfer and oil all maters and

relication of the sterage period we will perfer and oil all maters and

relication of the sterage period we will perfer and oil all maters

from class interior and coaling capacity; return kins unit for you in the spring

class interior and coaling capacity; return kins unit to you in the spring

and relicated asses in location from which removed. Just mosther reminder regarding the proper care of your air conditioner. This is especially true at this time as it may be maccoakry to use your precent conditioner for some time. ALL AIR COMDITIONERS NEED THIS SERVICE. Our storage is completely covered by insurence and your air conditioner will be afforded this protection while in our custody. As in previous years we are offering a reduced price for this spring service if done before May 1st. This service consists of the following: 12-Install new filter.

2-Adjust belts, cleam and oil meters and fams.
Cleam interfer and exterior of unit and cabinet.
Cleam interfer and exterior of unit and cabinet.
3-Check mil olsetric commections.
4-Check unit for proper refrigarant charge and cooling.
5-Ro-install air comditioner in original place of installation. In checking year unit, if any repairs other than the ones above sentioned are found to be necessary, we will advise you of this fact and sive yea an estimate of the measure of any additional charges before proceeding with the additional year. any moditional parts or service that is found to be needed at this time will be charged for on time and material basis and you will be informed reparding these before work is done. These prices are for units installed in double bung windows only. Conselected by the prices are for units installed in double bung windows only to see the prices of the p ur records indicate that you have ____ Hodel____ Hake__ Please sowine us as seen as possible if you wish to take sowness service, as we are taking orders and reserving units at this time. ne regular charge for the nervices listed above is \$__ r special spring price on this model before May lat is 8___ are conlosing a melf-addressed card for you to return. We will pay the postage. Simply fill out the card, sign and drop in the mail. We will call for an appointment before sending the service crew to you. RASH-SAVILLE-CRAMFORD, INC. Sincerely yours, RASH-SAVILLE-CRAMPORD, INC.

LOCATION SLIP marked with warehouse location of equipment makes each unit easy to find. Original is kept with call slip and duplicate attached to unit.

SERVICE RECORD provides detailed report of work done, itemized account of materials used, and hours of labor required. This data makes pricing easy.

No. 652 Ticket 20578 Name Address 23.50 Kincket 20578 Model 26 B Serial 17.886 Make Philos Parts Missing Console Window Unit Cabinet Cabinet Cabinet Cabinet Fillet Board Fillet Board Base Ext. Cord Switch Knobs Other Parts Resnoved By Resnoved By	No. 652 Continue R. A. Landing Equipment Discharge Man 12/15/50 Work To Be Down Scharge of Continue Report Of Work Down: Unit should not oil I had acrif region. Addition to convert had acrif region. Addition to convert had acrif region. Addition to Comment of the Continue of Continue of the Continue of the Material 2 Library of Art 2 y 12 2 2 2 4 4 12 2 2 2 4 12 2 2 2 4 12 2 2 3 4 12 2 3 5 5 1. 12 No. Labor 5 12 Tool
Removed By	He I



A DENVER FLORIST PAID A BONUS PRICE FOR THIS SPECIALLY DESIGNED DISPLAY CASE WITH CURVED GLASS ENDS, BUT THE DEALER
—THROUGH HIS ABILITY TO SATISFY THE CUSTOMER'S DEMANDS—PAVED THE WAY FOR SEVERAL OTHER SALES OF . . .

Custom-Built Florist Cases

FLORIST SHOPS are pretty fancy places. Many of them go to great lengths to ensure having a shop interior that will provide a pleasingly artistic and colorful background for the flowers which they merchandise.

This fact, while perhaps only of passing interest to the casual customer, is of paramount importance to the commercial refrigeration dealer endeavoring to sell refrigerated fixtures to this limited but highly specialized market. For it means that in many instances the styling or coloring demanded by a florist in his display cases makes it impossible for a stock factory-produced case to be used. The only answer to this problem is the construction of a special cases tailored

specifically to the individual requirements of that particular florist.

One firm which has been doing a successful — and profitable — job in this field is Behrens Fixture Co., Denver, Colo.

"The big display refrigerator with its colorful floral contents usually is the focal point of any florist's shop," points out Lou Behrens, head of the fixture firm. "Consequently it provides a real opportunity for the custom building of a case which will blend in with the shop's decor, yet make the shop's display facilities outstanding in comparison with those of its competitors."

Three types of prospects have accounted for 90% of the steady flor-

ist's refrigerator volume sold by the Behrens organization during the past five years:

 new florists or established florists opening new stores;

florists using cases obviously too small for their business volume;

(3) florists whose refrigerators lack eye appeal or require too much service.

In addition, a brand new field has been opened up through the merchandising of self-service reach-in flower display cases to hospitals for installation in their lobbies so that visitors may be provided with a last-minute opportunity to purchase bouquets for patients. (A more detailed story of how one commercial refrigeration

dealer has profited by selling to this hospital market was published in the June 1949 issue of COMMERCIAL REFRIGERATION.)

Some idea of the variance in individual requirements for floral display cases can be gained from a closer look at a few recent Behrens installations.

At one shop the florist requested a box 10 feet wide, with curved glass panels at either end permitting a full view of the case interior from any angle.

Another new shop borrowed a cue from modern supermarket merchandising techniques and asked Behrens to build a walk-in box in the rear of the store which would project through a partition three feet into the store's sales area for display purposes.

Behrens Fixture Co. with fine facilities for cabinet work, also has found

SELLING FLORIST CASES? Then look for these types of prospects:

1—New florists or established florists opening new stores.

2—Florists using cases obviously too small for their business volume.

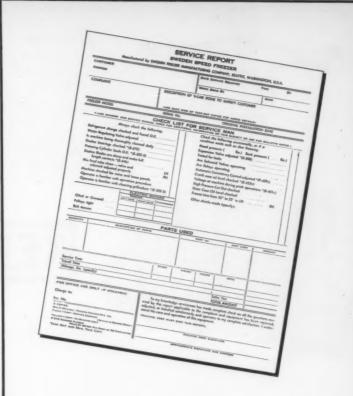
3—Florists whose refrigerators lack eye appeal or require too much service.

the ability to provide color-panel refrigeration a real asset in selling to florists. There is a definite trend away from the chill white enamel or stainless steel customarily associated with floral display toward warm pastel colors, the company has found.

Consequently, color samples, color photographs, and similar aids have helped the company to sell a variety of brilliantly colored custom jobs to various florist shops, particularly those in hotel lobbies or the downtown district where more eye appeal is required to offset competition.

From the refrigeration aspect, Behrens engineers have created sizeable savings for large-scale florists in providing multiple temperatures within the same display refrigerator, with compartmented display space held at varying temperature levels according to the type of flowers shown.

"The all important factor in selling the flower retailer is the ability to follow the designs he lays out himself," this Denver contractor sums up. "This can easily lead to sales of custom-built floral display cases costing anywhere from \$300 to \$1500."

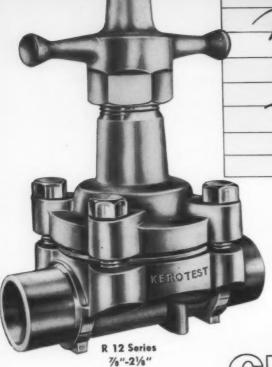


For Better Service

NEW service forms designed to provide a complete record of service work done on Sweden equipment have been made available to dealers by Sweden Freezer Mfg. Co., maker of soft ice cream and frozen custard machines. By furnishing the service man, the customer, and the factory with full information on all work done—through use of the forms—the company hopes to be better able to serve its dealer organization and Sweden machine owners.

These forms, in triplicate, are bound 50 sets to a book and contain a comprehensive check list plus space for description of work done, parts used, etc. According to instructions accompanying these books, the service man leaves one copy of the completed report with the customer, retains the parchment copy in the book for future reference, and sends the remaining copy to the factory for filing with the records of the machine.

There are several advantages to these forms that should make them popular with service men working with Sweden equipment. They provide a pattern to follow in making a routine service call and also furnish a permanent record of previous work done on the machine, thus helping the service man speed up his analysis of the problem. The completed copy sent to the factory will enable the engineering personnel to supply valuable assistance on a particular machine problem. In addition, from a study and evaluation of the reports, the factory can determine if improvements are needed. These can then be incorporated into future models.



Most Expensive Globe Valve Made



Forged Brass

Check These "EXTRA VALUE" Features

- 1. FULL FLOW—unrestricted interior design assures maximum volume and pressure performance.
- 2. SELF-ADJUSTING—abrasion and forced seating eliminated by selfcompensating "floating" disc.
- 3. POSITIVE SHUT-OFF—quick seating disc seals flow without forcing—operates easily—gives extra-long service.
- 4. LEAK-LOK BONNET SEAL—exclusive Kerotest gasketing practice assures leak-proof bonnet joint.
- 5. REPACKS IN USE—positive back-seating permits repacking under full pressure with safety.
- TEMPERATURE-PROOF—solid forged brass body withstands high temperature soldering—never develops porosity.



at No Extra Cost Always Extra Value

KEROTEST MANUFACTURING CO.

PITTSBURGH 22, PENNSYLVANIA



Robert T. Hanson has been named regional sales manager for

Acme Industries, Inc., in the central states area, with headquarters in Chicago. He has represented Fairbanks, Morse & Co. in Chicago, Chrysler Airtemp Sales Corp. in Detroit

and Chicago, and has had several years of actual experience in the contracting business in Chicago. He will contact Acme representatives and other sales outlets on all products.

Appointment of Joseph P. Mc-Carthy as general manager and R.



J. P. McCarthy



F. K. Zimmerman

L. Sears as sales manager of the Ohio Division of the Lynch Corp. has been announced by Frank K. Zimmerman, president, in a reorganization of these divisions. McCarthy has

R. L. Sears

been with Lynch since 1938 as a manufacturing executive, and Sears has been sales manager of the Par Compressor Division of the Corporation since 1944. Sears recently was elected vice president of REMA. The Ohio Divisions of Lynch Corp. consist of the Packaging Machinery Division, in Toledo, and the Par Compressor Division, in Defiance. The Par division manufacturers automotive type air compressors and commercial refrigeration condensing units, and the Packaging Machinery division makes cardboard and paper forming, wrapping and cartoning equipment.

John H. Ott has been appointed factory sales representative for Jor-



don Refrigerator Co. in the western Pennsylvania and western West Virginia territory, with headquarters at 6304 Penn Ave., Pittsburgh. He has been associated with the refrige-

ration and food service equipment field in that area for some years. He will handle sales of the complete Jordon line including frozen food cases, reach-in units, beverage coolers, etc.

E. M. Jameson, a Trane field representative for the last two years, has been promoted to manager of the Oklahoma City office of Trane Co.

Warden N. Hartman has been appointed manager of the industrial insulation department of Armstrong Cork Co. Hartman became associated with Armstrong as a sales trainee in 1939. Since 1948 he had been manager of the contract operations department. Sloane C. Martin will continue as manager of the company's low-temperature insulation products

while James W. Liddell has been named manager of high-temperature insulation products, succeeding F. W. Muller who has resigned.

Appointment of Ben W. Rist as sales manager of the Heat-X-Changer



Co., Brewster, N. Y., has been announced recently by Cecil Boling, president. Rist. who will make his headquarters at the general offices of the company in Brewster, has been midwest

manager for the past two years with offices in Chicago. Rist was formerly associated with he Fred C. Kramer Co., Chicago refrigeration parts wholesaler, and with Alco Valve Co. as field engineer in both the Chicago and New York areas.

To meet the growing demand for its atmospheric test chambers, control equipment, refrigeration and air conditioning units in both defense and commercial markets, Tenney, Inc., has announced four additions to its factory engineering staff. They are George Wheeler, as design engineer; Fred Herman, as project engineer in the applications division; and Alex Ermides and Joseph De Sciscio, as engineering draftsmen.

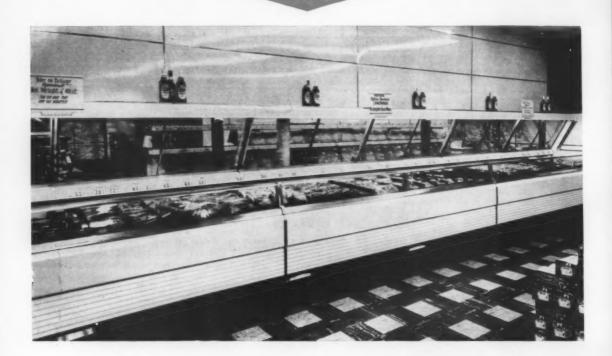
A. M. Norris has joined Baltimore Aircoil Co., Inc., as chief en-



gineer. He will be in charge of research and development of the company's products. A pioneer in the field of heat transfer, he was a member of the firm of Chatard and Norris.

which installed some of the first refrigeration and air conditioning systems in the Baltimore area. Most recently he was associated with the firm of Lloyd E. Mitchell, Inc., as chief air conditioning engineer, where he Continued on page 64

To successfully convert to selfservice operation a neighborhood food market in an "old fashioned" Polish section where customers were used to buying their meat "blood fresh." Clear glass canopy panels permitting full customer vision of the processing room, plus bi-lingual signs offering butcher service if desired, did the trick. \$27,000 worth of business in three days, some pulled from another Polish section 10 miles away, proved how completely "old world" taboos had been swept away by modern selling methods.



Show Them, Tell Them—Then They'll Buy

BUT I can't switch over to self-service equipment! My store is in an old neighborhood and my customers are largely of foreign extraction. They are set in their ways, and resistant to change of any type. If I tried to force some new fangled merchandising scheme like self service on them they'd simply go elsewhere to do their shopping in the same old way."

As a dealer in food store refrigeration equipment that sort of an argument is probably pretty familiar to you. You no doubt have heard it many times from market-owner prospects located in extremely old neighborhoods or catering to particular nationality groups.

True, it's a tough argument to sell against. Sometimes you may be almost inclined to agree with your prospect. But here's good news for you. Self-service operations can be made attractive to even this type of food store patron.

The Detroit grocery firm of Hiller-Lutey has proved this point with the opening of its third Shopping-Center Market. This new market is located in the second oldest section of Detroit, a neighborhood predominantly of Polish extraction and in which the majority of the buildings are over a hundred years old.

The building chosen for the store location was an old one that had been vacated by a "5 & 10" store. The market owners actually started

from scratch to completely renovate this structure.

Dimensions of this building, 40 feet wide x 100 feet deep, were not exactly the most convenient to work with but, by obtaining the assistance of Detroiter Refrigerator Mfg. Co. and through a great deal of planning, they were able to convert this area to accommodate an extremely efficient small supermarket, designed along conservative lines yet meeting the requirements of modern food handling.

The new market stands as a typical example of a small outlet that is geared for a high volume of food merchandising. Although handicapped by its location on one of the busiest thoroughfares in the city and a complete lack of parking facilities this store was able to do a volume of \$27,000 its first three days in business.

Sid Hiller, who has taken over the management of this market, has been in this neighborhood of the city all his life and has operated another market in the near vicinity of this

new store for the past eight years. Being as well acquainted as he was, Sid was fully aware of the problems he would encounter by introducing a complete self-serve market in this section.

Old World Customs vs. New World Selling

He was quite skeptical, for instance, of being able to sell meat self-serve to people who had always had their meat cut for them as requested, and were in the habit of buying meat "blood fresh." To overcome this anticipated non-acceptance, self-serve cases with clear glass in the canopy were installed to open the processing area to the eyes of the customers and to show them how efficient and sanitary the well operated processing room is.

This one consideration alone won half the battle of educating the people to the buying of any cut of meat from a self-serve fixture. For the shopper who desires a special cut of meat, this service is offered by signs printed in Polish as well as in English and displayed on the front of the cases. A Polish-speaking butcher takes it from there.

This service has been instrumental in developing for the Hiller-Lutey market a volume of choice meat business that previously was unheard of in a store catering to that trade in that locality. It even resulted in drawing trade from Hamtramck, a predominantly Polish suburb which is more than 10 miles away.

Not only the meat department but the entire market is completely selfserve, offering a full line of produce, frozen foods, and dairy products as well as canned goods.

Yes, Hiller and Lutey have proved their point that a food merchant does not have to be located in a newly built up neighborhood in order to successfully go completely self-serve—and in so doing they have provided enterprising commercial refrigerator dealers everywhere with some potent arguments which should enable them to further expand their sales of self-service equipment.

Chain Stores Spend 33% More on Air Conditioning

THE nation's chain stores spent \$41,200,000 for air conditioning equipment in 1950, an increase of 33% over their 1949 expenditures, according to a survey recently completed by *Chain Store Age*. Twenty-two per cent of all chain stores are now air conditioned, compared with $18\frac{1}{2}\%$ at the end of 1949, the study reveals.

Reports from 773 chains operating 32,483 stores, or more than 25% of all chain stores in the United States, provided the basis for the 1950 study. The study, which dealt only with mechanical air conditioning installations, covered stores in all sections of the country and included those operating sectionally and regionally as well as nationally.

"Big gun" in the chain stores' field in 1950, as far as air conditioning was concerned, were the grocery chains. These stores, in 1950, bought \$10,000,000 worth of air conditioning equipment, an increase of 233% over the \$3,000,000 they spent for this purpose in 1949. An estimated 4% of the food chains were air conditioned at the end of 1949, and sales in 1950 to this field brought this figure to an estimated 9%, a 5% increase.

Of the total number of stores built or remodeled by the food chains in 1949, about 9% were equipped with air conditioning. During 1950, 19% of the new and remodeled stores were so equipped.

The variety-general merchandise chains in 1950 spent

about 28% more for air conditioning than they did in the preceding year. Total expenditure in 1950 was \$11,500,000 as against \$9,000,000 in 1949. By the end of 1950, 27% of the total number of these stores in operation were air conditioned. An estimated 41% of the variety-general merchandise stores built or remodeled in 1950 were air conditioned.

By the end of 1949 the apparel chains had already air conditioned 53% of the total number of stores they operated and this percentage increased to 56% by the end of 1950. Chains in this field spent \$3,600,000 for air conditioning in 1950, against \$4,900,000 in 1949. However, about 36% of the stores in this field that were built or remodeled last year included air conditioning in the project.

Shoe chains spent the same amount in 1950 as they did in 1949—\$1,600,000, but in 1950 11.4% of their budget went for air conditioning as compared with 10% in 1949. About 43% of the stores built or remodeled in 1950 included air conditioning.

Drug chains spent \$1,500,000 for air conditioning in 1950, 50% more than their 1949 expenditure. Fifty-seven per cent of the chain drug stores now in operation are air conditioned.

Chains in fields other than those listed above spent an estimated \$13,000,000 in 1950 for air conditioning, compared with \$11,500,000 in 1949, an increase of 13%.

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PROTECTION IS PROVIDED against dust and dirt or any other foreign particles in the atmosphere by gasketed enclousures such as the one encasing this starter for polyphase induction motors.

IMPORTANT INFORMATION on motors as well as an electric motor controllers is included on this suggested service record. Intelligent use of such a form can de much to minimize maintenance problems.

MAINTENANCE OF ELECTRIC CO

By L. E. Markle

Manager, Control Equipment Engineering
Westinghouse Electric Corporation
Buffalo, New York

MAINTAINING electric motor controllers prevents expensive repairs and costly equipment "downtime." For good maintenance, these considerations are important:

 The first and most important requisite of good maintenance is safety to personnel. Safety is accomplished by enclosing, guarding, or remotely locating apparatus to avoid personal contact—and by disconnecting all power before touching or repairing any apparatus.

- The initial installation should be well made. All parts should have ample capacity. Installation work and wiring connections should be well done. Tests should be made to prove the adequacy of the equipment and installation before final acceptance is granted by ultimate user.
- An adequate supply of correct renewal parts should be available for prompt use when replacements are necessary. Renewal parts should be obtained from the manufacturer of the original equipment, to be sure that the parts are correctly made.
- 4. A systematic and regular plan of inspection should be arranged

to keep all equipment in good operating condition. Such a plan provides preventive maintenance.

Preventive Maintenance

Some suggestions for good preventive maintenance are:

- Personnel should be capable and alert, trained and prepared to make repairs when the need is first observed.
- Regular inspections of equipment should be made, frequently enough to prevent serious trouble from developing.
- If extensive repairs are required, inspector should report them immediately—initiating plans for the work as soon as possible.
- 4. Records indicate which installations are most troublesome,

This article is condensed from a forth-coming edition of the book "Controllers For Industrial Motors", by L. E. Markle and H. D. James.



INSPECTION AND REPAIR WORK is greatly facilitated if all controllers are located so that contacts, coils, springs, and other important parts can be checked and replaced quickly and with few tools.

Part 1

ITROLLERS

what repairs most frequently needed. They minimize interruption of service when a major maintenance job must be done. And, records show whether or not maintenance costs are excessive.

Any record that keeps the desired maintenance information in good order is satisfactory. It should be a convenient record, easily maintained. Maintenance personnel soon will know what type of record best suits their needs.

A suggested record form is shown in Figure 1. Since controllers and motors are closely associated, this record includes information on both.

CONTROLLER ENCLOSURES

Most controllers are mounted in some kind of metal enclosure. This may be done to protect personnel

Continued on page 46

17 Points for Proper Motor Controller Maintenance

- Do everything possible for the safety of personnel.
- Initial installation should be tested and proved satisfactory before it is accepted.
- An adequate supply of correct renewal parts should be available.
- A systematic program of inspection and maintenance work should be used.
- Enclosures should be chosen for the operating conditions.
- 6 Keep controllers clean and dry.
- Replace contacts that are worn very thin or badly burned and pitted. Replace contacts by pairs.
- Maintain correct contact pressures.
- Contacts should be kept clean. Do not change shape by rough filing or grinding.
- 10 Keep contacts and all connections tight.
- Do not oil contactor or relay bearings, but keep these units clean and with no friction in the moving parts.
- Operate coils at rated voltage. Both overvoltage and undervoltage conditions are undesirable.
- Keep arc-rupturing parts in good condition and in correct operating positions.
- 14 Replace frayed and worn shunts.
- Keep all dashpots clean. Be sure oil dashpots have correct oil in them.
- Correct conditions that cause excessive temperatures. Measure the temperature if in doubt about overheating.
- Be alert for undesirable grounds on all circuits and eliminate them.



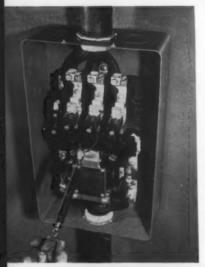
MECHANICAL WEAR has eroded this centect surface. No attempt should be made to repreir this damage. Instead, the contact itself should be discarded and raplaced with a new one.



5 ELECTRICAL BURNING was the cause of wear on this contact surface. As in the case of mechanical wear, this type of damage should not be repaired but the entire contact should be replaced.



DIRTY CONTACTS or those having excessively rough surfaces should be cleaned and smoothed with sandpaper or a fine file. Careful handling of this contact with burned corner can restore it to usefulness.



CONTACT PRESSURES should be checked and maintained within suitable limits. Always replace both moving and stationary contact if pressure proves to be unsetisfactory.

Continued from page 45

from live parts, or it may be desirable because of local conditions.

The most common enclosure is a sheet metal one that encloses all live parts. It may be ventilated or nonventilated.

Dusty Atmospheres

For cement dust, coal dust, and locations where dirty atmospheric conditions exist, dust-tight enclosures will reduce the maintenance on controller parts. These enclosures require gaskets and are so made that no dust or dirt can enter them (see Figure 2).

Wet Locations

Weather-resistant, drip-tight, water-tight, and submersible-type enclosures are necessary where the corresponding service conditions are factors in maintenance requirements.

Hazardous Locations

For hazardous locations such as mines, refineries, cleaning plants, or wherever explosive atmospheres are present, the enclosures are of heavy construction. They are so designed that they will withstand explosions of the gases within the enclosure without damage to the enclosure and without permitting any flames to emerge from it to cause external fires and explosions.

Oil immersed controllers also are used to prevent explosions in dangerous locations.

Corrosive Atmospheres

Where acid fumes or other highly corrosive atmosphere exist, maintenance work will be minimized if the controller parts are immersed in oil and the enclosure is protected by a suitable finish.

CLEAN CONTROLLERS REQUIRE LESS MAINTENANCE

Very few industrial controllers operate in clean places. Dust, dirt, oil and moisture—separately or in combination with each other—all create maintenance work. They reduce insulating distance across otherwise clean and dry surfaces. They collect dust and dirt that may cause sluggish mechanical action of electrical devices.

Accumulations of dust and dirt

should be removed regularly either by vacuum or by compressed air. (Excessive air pressures should be avoided because sharp, small particles may be driven into some insulating materials.) Special attention may be required to remove the metallic dust that collects and adheres to the magnetized parts of the controller. Dirt, oil, and moisture sometimes are most easily removed by wiping with cloths and suitable solvents.

Moisture due to condensation may collect within an enclosure. Drainage holes are sometimes acceptable to relieve this condition. Heaters often are used to prevent moisture by condensation. The heaters are most essential when the controller is idle. When in operation the coils and resistors within the enclosure will usually provide enough heat to prevent condensation.

ACCESSIBILITY

For inspection and easy repair work, all parts should be made as accessible as possible. It should be possible to renew contacts, coils, springs, and other important parts quickly and with few tools. Installations should be arranged so that all units are accessible for maintenance work (see Figure 3).

CONTACTS

Every time contacts open or close they are subject to mechanical wear and electrical burning. Contact parts, therefore, are items that may require considerable maintenance depending upon operating conditions. The mechanical wear of contacts that operate every second may be more serious than the electrical burning (see Figures 4, 5).

Contact Materials

Contacts are generally made of copper or silver. Certain other materials can be used for special applications but should be recommended by the manufacturer. These materials usually have higher resistance and less current carrying ability than copper or silver.

Large contacts for heavy currents are almost always made of copper. They may use silver sections or inserts at the place where final contact is made to improve current carrying

Continued on page 51

OF THE INDUSTRY

HENRY HAASE NAMED McCRAY PRESIDENT

Henry M. Haase has been elected president and director of McCray Refrigerator Co., Kendallville, Ind., succeeding J. W Hart, who recently resigned. He assumed his office as of August 1.

A graduate of University of Wisconsin in mechanical engineering, Haase was for 19 years associated with Fairbanks-Morse Co., and at the time of his resignation from that company in February of this year was general manager of its Beloit, Wis., works, which employs 6000 persons.

During the years 1943 to 1946 he coordinated the activities of the Freeport, Ill., and Three Rivers, Mich., plants under the direction of vice president and manager while serving as assistant general manager of the Beloit works.

Since leaving Fairbanks-Morse in February, he has been consultant and officer of the Free, New Home, and National Sewing Machine companies.

During his residence in Beloit, Haase served as president and director of the Beloit Association of Commerce; a director of the Beloit Municipal Hospital; an advisory member of the Beloit city planning commission; a director of the YMCA; a directormember of the University of Wisconsin Foundation; and a committee member of Wisconsin Manufacturers' Association.

YOUNG NOW WITH PENGUIN SALES

C. D. Young, formerly with Bailey & Perkins Co., Detroit, has left that company to become associated with Penguin Sales, 15440 Plainview Ave., Detroit. Penguin also manufactures frozen food and dairy display equipment.

HEADS McCRAY



HENRY M. HAASE

\$81,000 LOSS ON CONTRACT CLAIMED

Masterfreeze Corp., Sister Bay, Wis., manufacturer has filed a petition for bankruptcy in Milwaukee federal court, revealing that it lost \$81,000 in a war contract.

The petition, signed by E. F. Anderson, president, said the firm signed the contract for \$601,788 last January, but that it had suffered the loss because of rising costs due to the Korean war. The company would like to stay in business, the petition said, if it gets approval on its request for relief from the defense contract.

Assets were listed as \$284.361, and liabilities at the same amount.

NEW PLANT FOR CRANE PACKING CO.

Construction of new general offices and plant facilities of the Crane Packing Co. of Chicago is under way, it was announced by Frank E. Payne, company president.

The new plant site, situated on Oakton Ave. near Lehigh in Morton Grove. Ill., will cover 133,000 sq ft when completed.

NEW FACTORY FOR SUPER-COLD CORP.

New plant No. 7 of the Super-Cold Corp., Los Angeles commercial refrigerator manufacturer, was scheduled for completion Aug. 15. The plant, located at 840 E. 111th Place, was designed by architect John Kewell, was erected at a cost of \$2.50 per square foot, it is reported.

It employs tilt-up construction, and has doors 22 feet high in the rear of the building to allow heavy equipment to be moved in

and out.

Besides refrigeration equipment, Super-Cold also produces navy rockets, airplane wings and other mechanical equipment. According to N. A. Kessler,. president, the company expects to employ about 200 people at the new plant.

LARSEN ELECTED RISAC CHAIRMAN

L. W. Larsen, sales manager of the refrigeration division of Tecumseh Products Co., was elected chairman of the Refrigeration Industry Safety Advisory Committee at its recent meeting. He had been serving as treasurer.

R. L. Williams, gales manager of the Kinetic Chemicals Division of Du Pont, was elected treasurer to succeed Larsen. Henry G. Strong, Carrier Corp. code representative, continues as vice chairman.

CYRUS MILLER DIES

Cyrus W. Miller, executive secretary of the Refrigeration Industry Safety Advisory Committee (RISAC), died from a heart attack on Aug. 13 at his home in North Tarrytown, N. Y. He was 55 years old. Miller was an authority on mechanical refrigeration safety code problems throughout the country.

EXPECT OVER 200 SHOW EXHIBITORS

Over 200 leading manufacturers of refrigeration and air conditioning equipment will display their latest and most modern equipment at the 7th All-Industry Refrigeration and Air Conditioning Exposition at the Navy Pier, Chicago, from Nov. 5 to 8, according to L. C. McKesson, chairman of the exposition committee.

McKesson says that "this year's show will be the world's largest display of refrigeration and air conditioning units, equipment, and parts ever assembled under one roof."

The All-Industry Show is sponsored by the Refrigeration Equipment Manufacturers Association and is a national trade show with admission free by registration to anyone identified in any way with the refrigeration or air conditioning industry.

The entire north section of Navy Pier, comprising over 3 full acres of floor space, will be used to house this year's Show, and exhibits are expected to represent a value of over 5 million dollars.

The Show Committee advises that persons who are planning to attend the exposition should make hotel reservations as far in advance as possible, since at least one other large convention will be held in Chicago during the same period. Attendance at the Show is expected to reach 15,000 persons.

The exposition will be open to visitors during the following hours:

Mon., Nov. 5 2 to 10 p.m. Tues., Nov. 6 10 a.m. to 6 p.m.

Wed., Nov. 7 noon to 10 p.m.

Thurs., Nov. 8 10 a.m. to 4 p.m.

Over 80% of the available space already has been sold.

BANQUET NOV. 4 ON RSES PROGRAM

A banquet on the night of Sunday, Nov. 4, eve of the opening of the 7th All-Industry Show, will be one of the highlights of the 14th annual convention of Refrigeration Service Engineers Society, to be held Nov. 3 through 6 in Chicago.

RSES points out that the banquet, the only major social event of the Show period, gives exhibitors and other Show visitors, as well as RSES members, an excellent chance to renew acquaintances on the night before the Show opens.

A complete floor show and entertainment is planned in connection with the banquet. One feature will be the appearance of the Kraft Cheese Co. choral group, well-known throughout the midwest

RSES international president Cecil Visger has appointed Floyd Lilley, Chicago, as convention chairman, with William J. McCarley, Joliet, and Ed Riccio, Chicago, as cochairmen. Other chairmen include Dwight Orr, entertainment; Willis Stafford, publicity; Al Delheim, auxiliary coordinator; Warren Chesbro and Wesley Donalski, program; R. C. Marquis, registration; Ralph Porter, reception.

QUIGAN RESIGNS AS

Frank J. Quigan has resigned as board chairman and director of Feddersquigan Corp., Buffalo, because ill health, which he said prevents him from devoting to the company the time and energy that are needed. Quigan underwent a serious operation last spring, and has been ill ever since.

No new chairman has been named by the board. Quigan said he and his immediate family have disposed of their holdings to Allen & Co., investment bankers.

IN NEW OFFICES

International Products Corp., manufacturer of stainless steel commercial refrigerators, announces it has moved to new executive offices at 665 N. Berendo, Los Angeles 4.

ARCOLD LEADERS MAP SALES PLANS



KEY EXECUTIVES OF ARCOLD Co., recently organized Dallas, Texas., firm which has been appointed sale world-wide distributor for Nolin commercial refrigeration equipment, talk over their plans for merchandising the company's products. All veterans of many years in the commercial refrigeration field, the distributorship's "top brass" includes (left to right): Frank C. Fallon, president; J. C. Bounds, secretary-treasurer; Neil Nash, vice president in charge of sales; and Robert Fallon, vice president in charge of retail sales.

ARCOLD CO. NAMES TWO DISTRIBUTORS

Arcold Co., Dallas, Tex., which has recently been named world-wide distributor of the Nolin line of commercial refrigeration products, has announced the appointment of West Coast Manufacturers and Exporters, Inc., Los Angeles, as west coast representative.

The Los Angeles firm is headed by George Lindahl and Albert Rebel, both formerly with Super-Cold Corp. Offices are at 354 S. Spring St.

Newly appointed midwestern representative for Arcold is J. F. Miller, 675 Chester, Elgin, Ill. Miller formerly was general manager of Super-Cold Midwest Co., Chicago.

In addition to handling the Nolin line, the Arcold Co. has been named north Texas distributor for Warren refrigeration products, and distributor in Texas, Oklahome and Louisiana for Coldin frozen food

HERRICK CO. NAMES HOUSE GENERAL MGR.

Herrick Refrigerator Co., Waterloo, Iowa, has announced that Neil C. House has been appointed general manager to succeed Ray E. Nesbit, who died last spring. House formerly was in the lumber business.

MITCHELL RESEARCH GRANT EXTENDED

A grant for further studies relating to the effects of air conditioning on the human body has been established by the Mitchell Air Conditioning Research Foundation, it was announced by B. A. Mitchell, president of the foundation and of Mitchell Mfg. Co. Chicago.

The grant has been given to Michael Reese Hospital in Chicago, and has already provided two specially controlled air conditioned rooms. First experiments are under the direction of Dr. Louis N. Katz, director of the Cardiovascular Department at Michael Reese, and professorial lecturer in physiology at the University of Chicago.

Studies are to be made with patients suffering from diseases of the heart and are expected to determine whether or not a controlled air conditioned atmosphere augments treatment and facilitates recovery.

The experimental rooms are each equipped with a % ton air conditioning unit, controlled by switches outside the room so that tests may be under scientific supervision at all times. Relative humidity is kept at 50% and temperature is allowed to reach a high of 82 F and a low of 75 F.

ACRMA SECTIONS

Various of the product sections of the Air Conditioning & Refrigerating Machinery Association have elected officers for 1951/52 in recent meetings. These sections and the officers elected follow:

Room Air Conditioner: chairman, M. T. Bard, Airtemp Div., Chrysler Corp.; vice chairman, H. L. Laube, Remington Corp.; engineering committee chairman, W. J. McGrath, Carrier Corp.

Self-Contained Air Conditioner; chairman, T. E. Smith, Westinghouse Electric Corp.; vice chairman, W. G. Cox, General Electric Co.; engineering committee chairman, R. E. Holmes, Worthington Pump & Machinery Corp.

Small Compressor and Condensing Unit: chairman, C. E. Ploeger, Servel, Inc.; vice chairman, F. E. Lehman, Frigidaire Div., General Motors Corp.; engineering committee chairman, W. L. Knaus, General Electric Co.

Central Station Air Conditioning and Refrigeration Equipment: chairman, O. E. Gammill, Jr., Carrier Corp.; vice chairman, J. R. Hertzler, York Corp.; engineering committee chairman, A. J. Mallinckrodt, Baker Refrigeration Corp.

Large Compressor and Condensing Unit: chairman, F. W. Smith, Baker Refrigeration Corp.; vice chairman, W. H. Aubrey, Frick Co., Inc.; engineering committee chairman, E. B. Dunphy, Acme Industries, Inc.

WEBER CO. BUYS AIRCRAFT FIRM

Weber Showcase & Fixture Co., Los Angeles, has announced the purchase of Airquipment Co., a subsidiary of Lockheed Aircraft Corp., at a reported sale price of \$1,300,000.

Weber's own aircraft division will be combined with Airquipment, and both operations will become the Weber Aircraft Corp. According to president Karl F. Weber, the new company will be capable of producing about \$15,000,000 of aircraft e q u i p m e n t annually.

Aerol Co., Inc., a subsidiary of Airquipment, was not purchased by Weber.

NPA WILL STUDY U.S. WATER NEEDS

To make effective use of the nation's water resources so that the needs of defense plants, military reservations and civilian population are adequately met, the National Production Authority has announced the creation of the Water Resources Division and the appointment of Harvey S. Howe of West Orange, N. J., as its director.

"Water is so basic a necessity that it is paradoxical how often it is overlooked in industrial planning," NPA officials said.

"NPA is setting up a small control group of technical men whose job it will be to plan for national needs in the field of industrial, public and domestic water and disposal of waste and sewage."

In explaining the work of the Water Resources Division, Howe said that planners of defense plants will check with the division on the availability and quality of water in areas selected for plant sites.

Water quantity needs vary not only with the industrial process involved, but also with the type of plant construction, such as whether air conditioned or open-windowed.

Responsibility division will include (1) ground and surface water supply, transmission. pumping, treatment. storage and distribution for domestic and industrial use, and (2) liquid wastes sewage collection. and pumping, treatment and whether from disposal. domestic or industrial sources.

ASRE MAKES 1951 RESEARCH GRANTS

American Society of Refrigerating Engineers, through its research committee under the chairmanship of C. M. Ashley, has recently authorized grants to a number of colleges for furtherance of study on subjects pertaining to refrigeration.

Among those colleges participating are Oklahoma A & M, Case Institute of Technology, St. Louis University, North Carolina State College, and

NEW AIR CONDITIONED DINER



PACKAGED AIR CONDITIONING equipment, 15 tons of it, cools customers of the 70-foot Yankee Clipper Diner, said to be the largest single section diner ever delivered in the New York area. The diner, located in Velley Stream, Long Island, is served by a 15-ton Kooler-aire unit located in the basement and air is supplied through ducts which were installed during construction of the building in Elizabethtown, N. J. The square diffusers, which blend into the mirrored ceiling pattern, can be seen directly above the counter area. Ductwork was placed along the rear of the diner roof so that it would not be visible from the street side. Installation was by the Mid-Island Utility Co., Westbury, Long Island.

University of Kentucky.

At Oklahome A & M, the problem of "Refrigerant Desiccants" will be studied under Prof. L. H. Bartlett; at Case, the subject is Transfer Coeffi-"Heat cients Boiling in a Horizontal Tube Evaporator", under Prof. W. L. Bryan; at St. Louis, under Father B. J. Luyet, "Preservation of Frozen Plant Tissues in the Living State" will be studied; at North Carolina State, "Sensible vs. Latent Heat Transfer During Cooling of Humid Air" will be studied under Prof. K. O. Beatty; and at Kentucky, work will be continued on "The Deterioration of Meat Under Various Storage Conditions".

TYPHOON PLANT SPACE ENLARGED

In a recent expansion move, Typhoon Air Conditioning Co. has completed arrangements to occupy the first floor of a building adjoining the company's Plant No. 1 in Brooklyn, N. Y.

Including the space in the same building, acquired previously, the move adds some 20,000 sq. ft. to the Typhoon main plant.

Earlier this year the company acquired a second-

ary plant a few blocks away from the main factory for the manufacture of subassemblies used in the Typhoon line.

ANSUL HAS BETZ LINE IN 9 STATES

Ansul Chemical Co. has extended its sales agreement with Betz Corp., George B. Vermilye, sales manager of Ansul's Refrigeration Division, announces. Ansul is now representing Betz in Indiana, Kentucky, Missouri, Kansas, Colorado, Wyoming, and in parts of Michigan and Illinois.

Prior to this, Ansul represented Betz in the southwest.

Floyd Duvall is Ansul district manager in the Indiana-Kentucky-Michigan area; Dwight "Dyke" Hardie in the Missouri-Kansas-Colorado-Wyoming-Illinois

MASON EMANUELS CO. TO HANDLE HUBBELL

Hubbell Corp., Mundelein, Ill., manufacturer of automatic controls for refrigeration and air conditioning, has appointed the Mason Emanuels Co., Seattle, Wash., as sales and service representative.

HUBBELL METALS IS JOBBER'S NEW NAME

Coincident with its 25th anniversary, Brass & Copper Sales Co., St. Louis, a pioneer wholesaler of refrigeration and air conditioning supplies, and a warehouse distributor and agent for steel, copper and aluminum, has announced a change of its name to Hubbell Metals Inc.

According to Howard H. Hubbell, president, the company since its founding in 1926 has so grown in its diversity of products and services that the original name has not been indicative of the company's business scope.

It has been a wholesaler of refrigeration and air conditioning supplies since 1929, a distributor of aluminum mill-products since 1941, and of stainless steel and steel mill-products since 1945.

A branch operation was opened in Kansas City in 1945, and in Indianapolis in 1948.

Latest addition to the company's facilities is a 54,000 sq. ft. plant at 5400 N. Euclid Ave., St. Louis, which will be used to receive and ship large orders and process all fabrication orders. The building, located on an 8-acre site, has private railroad facilities, and is equipped with cranes of 1 to 10 ton capacities.

The office, broken case lot receiving and shipping, metals counter, and Refrigeration Supplies Division continue to be located at 2817 Laclede Ave.

CARRIER TO MAKE TURBOJET PARTS

A sub-contract calling for large-scale production of axial compressors and other major components of the powerful General Electric J-47 turbojet engine—one of several defense orders totalling more than \$50,000,000—has been announced by Carrier Corp.

Cloud Wampler, president of Carrier, reported that execution of the jet parts contract would utilize in its entirety a new and completely air conditioned plant here, providing some quarter million square feet of manufacturing space.

WE TAKE CARE OF

Eastern

CONDENSATE



Designed for the air conditioning field, here is a completely automatic, foolproof unit that removes condensate fluids from the receiver tank and pumps them to an outside drain. Simple to install . . . Low operating cost . . . Totally enclosed motor Compact, rugged, rustproof construction . . . Quiet and reliable

SPECIFICATIONS

Tank - Approximately 1½ gal. capacity with ¾" inlet, ½" outlet. Brass with black enamel outside. Pump-Bronze centrifugal pump. Delivery app. 4½ GPM at O PSI and shut off of 12½ PSI. Motor - 1/40 HP 3450 RPM, single phase, 60 cycles, 115 volt, totally enclosed, bell bearing, capacitor start motor.

Control - Controlled by a float operated switch, so set to pump out app. 0.8 gal. of condensate at each operation. Built-in check valve prevents the outlet line from draining back into the tank. Overall Dimensions-514" wide; 9%" long; 12 15/16" high. Weight 21 lbs.

Investigate Eastern's Proven Pumps for ICE CUBING MACHINES

ssigned for continuous cury sider sovere operating condi-nes, the Eastern Model D-11 ump is a heavy duty centri-ragel pump. Size: 10" x 5½" is 15". Weight: 18 lbs. Power: is HP, heavy duty, split phase, side continuous cully enclosed, induction meter. vuillable in 110 or 220 volts. C. Maximum output: 8 GPM it zero prossure. Maximum is 15 PSE at last off.



MODEL D-11

WRITE FOR COMPLETE CATALOG

Eastern INDUSTRIES

Circle No. 35 on Reader Service Card for more information

FIRM TO SERVICE A-P GAS CONTROLS

The first of a proposed series of service outlets to handle repairs and replacement of gas controls has been announced by A-P Controls, Milwaukee, manufacturers of gas, oil and refrigeration controls.

Roy W. Johnson, A-P president, said the company had named the Ohio Pump and Service Co. as an authorized outlet to handle gas controls. The firm is located at 7904 Lorain Ave., Cleveland, and is one of 44 authorized outlets providing service for A-P oil controls.

Johnson indicated that service outlets for gas controls will be established wherever gas is prevalent, to provide "on-the-spot" service to dealers and servicemen.

At the same time, the A-P president said his company plans to conduct an educational campaign for servicemen employed by utilities. A recent training school of this type was held for service employees of the East Ohio Gas Co.

Ohio Pump and Service Co. is managed by W. W. Rattrich, who has com-pleted the A-P Controls factory training provided for all service station personnel.

FLORIDA FIRM IN WHOLESALING FIELD

H. B. Adams Refrigeration, Inc., 4513 Florida Ave., Tampa, Fla., has recently announced its entrance into the refrigeration supplies wholesaling field. The firm will handle Servel commercial condensing units and other items for the trade.

Adams has had 25 years' experience in the refrigeration field, both in service work and in fixture equipment sales. Associated with him are Clyde Hall and Jim Dillingham, also with long experience in refrigeration.

Representatives of manufacturers present at the open house meeting celebrating the company's new venture included George S. Eager, service manager of Servel, Inc., and Al Werner, of Permalatem.



Circle No. 34 on Reader Service Card for more information SEPTEMBER, 1951 . COMMERCIAL REFRIGERATION

CONTROLLERS . . .

Continued from page 46

ability or reduce heating. Silver contacts are generally used on the small current carrying contacts of relays, electrical interlocks, pushbuttons, thermostats, pressure switches and similar devices.

Contact Surfaces

Contacts should be kept clean. This is especially true of copper contacts because the discoloration that soon appears on clean copper is not a good electrical conductor. It therefore increases the contact resistance, and is often the cause of serious heating of contacts. When contacts are renewed, it is important to clean the new contact, if it is discolored, and the surface against which it is mounted.

The slight rubbing action and burning that occur during normal good operation generally will keep the contact surfaces clean enough for good service. Contacts that seldom open or close, however, readily will accumulate the thin discolored surface that may cause heating.

The dense discoloration that soon appears on clean silver is a relatively good electrical conductor. It is not so necessary, therefore, to keep silver contacts clean except for appearance.

Burned Contacts

When contacts carrying excessive currents are closed or opened, or when contact motion is sluggish, the contact surfaces may be severely burned. If this burning causes deep pits or craters—or a very roughly burned surface—both the stationary and moving contacts should be renewed.

It is not essential or even desirable to have contact surfaces entirely smooth. Slightly roughened surfaces that appear during normal good operation, if clean, provide better contact area than smooth surfaces. Contacts with surfaces comparable to very coarse sandpaper may be considered in good condition.

Contacts that are dirty or excessively rough should be cleaned and smoothed with sandpaper (see Figure 6). A fine file may be used, but be sure to maintain the true surface shape or contour of the original contact. The designer often spends much time and effort to determine the best

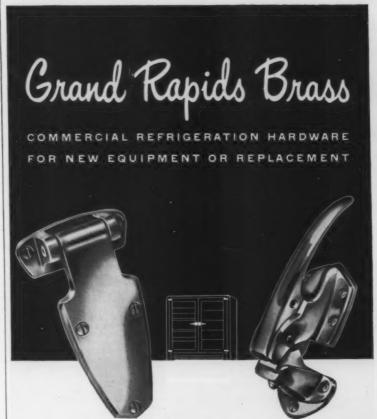
contact shape. Changing the original shape by careless filing will leave high points or edges that may over-

Emery paper should not be used to clean contacts. It is an electrical conductor. Furthermore, some particles become imbedded in the contact surfaces and cause unnecessary wear.

Worn Contacts and Contact Pressures

As contacts wear, the material in them gradually disappears because of both mechanical wear and electrical burning. During the wearing process the contact pressures decrease. This affects the current carrying ability of the contacts and, if allowed to get too low, will cause overheating of the contacts. A small contact with suitable pressure will carry current with less heating than a large contact with little or no pressure.

Reasonable provisions are made for the wearing of contacts when the original designs are made, but replacements eventually will be necessary. Manufacturers will furnish in-



Locks, Strikes and Hinges
that Contribute to Quality
in the World's Finest Refrigerators

Grand Rapids Brass Company

GRAND RAPIDS, MICHIGAN

A DIVISION OF CRAMPTON MANUFACTURING COMPANY

Circle No. 36 on Reader Service Card for more information

formation on correct contact pressures for their devices.

The contact pressures may be reduced either because of worn contacts or damaged contact springs. If contact springs have been overheated, they may be unable to provide sufficient contact pressure because the material has been weakened by the overheating.

Contact pressures should be checked and maintained within suitable limits (see Figure 7). Always replace both moving and stationary contacts, never just one alone. Loose Contacts

Any loose electrical connection eventually will cause trouble. The bolts or fastening devices that hold contacts in place always should be tight. Normal expansion and contraction of metals due to temperature changes or excessive vibration will cause bolts or nuts to become loose. Frequent checking for loose contacts is advisable.

Oil Immersed Contacts

The life of oil immersed contacts is generally shorter than that of contacts operating in air. Frequent inspection of oil immersed contacts is important.

Welding of Contacts

Few contacts close without some bounce or rebound when they first come together. This is due to the reaction of the contact springs as they are compressed to provide the final contact pressure. When the contacts bounce they may separate. At this time the contacts are carrying current and, even though the separation be very small, an arc is created. This arc may cause sharp projections of burned or roughened contact surfaces to overheat and may weld or "freeze" the contact surfaces together.

Other causes of contact welding are excessive currents when contacts close or open, insufficient contact pressure, sluggish operation either when closing or opening, and momentary closure of contacts with little or no pressure applied.

Silver contacts will weld more readily than copper ones. Well-designed contacts, properly applied, reduce this hazard to a minimum.

(Editor's Note: The second and concluding part of this article will be published in next month's issue of Commercial Refrigeration and Air Conditioning.)



With bodies machined from solid bar brass stock, the new Marsh-Electrimatic Solenoid valves give new meaning to quality and dependability.





A team of theroughbreds for the man who wants the ultimate in testing gauges.



Type WT Marsh-Electrimatic temperature actuated regulating valve — one of many such regulators. pick Marsh!"

A wholesaler that has won the respect of a lot of refrigeration men is Refrigeration Supplies, Inc., of Cleveland, Ohio, with flourishing branches in Youngstown and Akron.

The photo above was taken in the Cleveland establishment, where "Rod" O'Flaherty (left), secretary of the firm, and "Jim" Downs (right), its president, were talking products and plans with E. C. Kluger, the Marsh man in the middle.

with E. C. Kluger, the Marsh man in the middle.
On the 10th of this month, Refrigeration
Supplies celebrates the anniversary of its 15th
year in business, and there will be much to
celebrate. According to Mr. Downs, his firm
was first to use the "product display" type of
merchandising. "Product display selling enables our customers to select the equipment
they like best," says Mr. Downs, "— and they
DO pick Marsh!"
There is a firm like Refrigeration Supplies

DO pick Marsh!"

There is a firm like Refrigeration Supplies in your locality who would like to supply you with Marsh instruments and Marsh Electrimatic Valves and Regulators. A few popular Marsh products are shown here.

See our exhibit BOOTHS 319-321 Navy Pier Chicago Nov. 5 - 8

See your jobber

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corporation
Dept. P. Skokle, Ill.
Export Dept., 155 E. 44th St., New York, N. Y.

MARSH

Refrigeration Instruments

BOOK REVIEW

Title: Engineering Thermodynamics
Author: Herman J. Stoever, professor of mechanical engineering,
Iowa State College

Publisher: John Wiley & Sons, Inc., New York City Price: \$5.75

This text differs from most others in this field both in its division and arrangement of material. In Part I the concepts based on the First Law are developed; in Part II those based on the Second Law are developed; in Part III the principles and methods treated in the first two parts are applied to the analysis of some of the more important kinds of heat power equipment.

Material in Parts I and II is treated not according to the kind of fluid involved but according to the thermodynamic principles considered. Properties of perfect gases and actual fluids are discussed together, as are methods of solving problems in systems involving either.

Eighty of the 145 articles are immediately followed by sets of problems, each of which is graded in difficulty from the simplest to the most challenging.

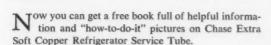
NEW FREE BOOK!

CHASE Extra Soft COPPER REFRIGERATOR SERVICE TUBE

SUGGESTIONS FOR HANDLING AND INSTALLING CHASE EXTRA SOFT COPPER TUBE



3. REAMING and BURRING



It gives suggestions for uncoiling, cutting, reaming, burring and flaring. It provides tables on sizes, weights, packaging, outside diameters, wall thickness and pounds

For a copy of this new Chase Book, fill in and mail the coupon at right.

Chase Brass & Copper Co., Dept. CR 951 Waterbury 20, Conn.

Please send me FREE Chase book on Chase Extra Soft Copper Refrigerator Service Tube.

AIR CONDITIONING WORK

Chase BRASS & COPPER

WATERBURY 20, CONNECTICUT . SUBSIDIARY OF KENNECOTT COPPER CORPORATION



Circle No. 38 on Reader Service Card for more information

and AIR CONDITIONING . SEPTEMBER, 1951



The publications listed below are available to readers without charge. Simply circle on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

Insulation . . . This well illustrated 24-page booklet discusses the advantages of "Foamglas" insulation for piping and process equipment, lists its properties, typical data for cold or hot applications, and details for use. Tables show sizes and shapes available in pipe insulation, standard blocks, and other shapes, and also recommend shapes and thicknesses. Available from Pittsburgh Corning Corp.

Circle No. 100 on Reader Service Card

Threaded Bronze Valves . . . New catalog (TV-206) covering Nibco line of threaded bronze valves. Valves are illustrated, and complete specifications, weights, rough-in dimensions, etc. are provided. Available from Northern Indiana Brass Co.

Circle No. 101 on Reader Service Card

Milk Coolers . . . A 4-page catalog folder describing and illustrating Steinhorst milk coolers in both spraytype side-opening models and standard immersion-type units. Also described is a new dry storage cooler for milk that has been initially cooled over a surface cooler. Available from Emil Steinhorst & Sons, Inc.

Circle No. 102 on Reader Service Card

Running-Time Recorders . . . A new bulletin (OP1504) describing Series 500 running-time recorders has been published by Bristol Co. to provide information concerning the application of these units to refrigeration equipment and other industrial machinery. Illustrations include photos of various models, reproductions of chart records and operation drawings.

Circle No. 103 on Reader Service Card

Motors . . . A 4-page product bulletin illustrating, describing and listing specifications and features of Wagner single phase, polyphase, and direct current electric motors. Available from Wagner Electric Corp.

Circle No. 104 on Reader Service Card

Transport Refrigeration . . . Practical and helpful information for everyone concerned with refrigerated transportation of perishable cargos

is contained in this 4-page bulletin issued by Hunter Mfg. Co.'s Transport Temperature Control Div. as part of its advisory service. Discusses all the elements involved and with plain language and simple sketches treats such subjects as vehicle requirements, cargo factor, methods of refrigeration, and cargo handling.

Circle No. 105 on Reader Service Card

Fountain Equipment . . . Several improvements in fountain design and construction are outlined in this new brochure describing the "Everfrost" line of bobtails and creamer units produced by Anderson & Wagner, Inc. All models are fully illustrated and described.

Circle No. 106 on Reader Service Card



"During the last national emergency I specialized in compressor repair."

Liquid Meters . . . A new bulletin (OG400) intended as a guide to the proper selection of meters for measuring more than 200 liquids with varying corrosive characteristics has just been issued by Rockwell Mfg. Co. It includes data on liquids encountered in the refrigeration industry as well as many others.

Circle No. 107 on Reader Service Card

Heat Transfer Line ... A 52-page illustrated catalog (R-225) covering the complete line of heat transfer equipment offered by Kramer Trenton Co. A special engineering section permits rapid selections for 35 F temperatures as well as for low temperatures of zero to -20 F. Reference to this section makes possible accu-

rate selection of equipment without use of a pencil. Measurements, capacities and application data are fur nished in complete detail, together with performance data and other general information.

Circle No. 108 on Reader Service Card

Vertical Pumps . . . This 8-page catalog (7228) describes and illustrates a line of vertical turbine-type pumps particularly applicable to bulk liquid transfer, cooling tower dewatering, and similar services where suction is taken from an open source. Advantages are listed, a table of dimensions is included, and typical applications are pictured. Available from Ingersoll-Rand Co.

Circle No. 109 on Reader Service Card

Hermetic Units . . . A broadside cataloging the "Supermetic" line of condensing units produced by Servel, Inc. All models, both air and water cooled, are pictured and briefly described. A cutaway view highlights all mechanical features. Service and warranty provisions are outlined. Available from Servel, Inc.

Circle No. 110 on Reader Service Card

Cold Plates . . . A 12-page engineering section providing a wide variety of installation and application data is the outstanding feature of this 16-page catalog on Dean cold plates and assemblies. Typical locker plant units, sharp freeze plates, soda fountain units and assemblies for special applications are pictured, and a full page of specifications is provided. Available from Dean Products, Inc.

Circle No. 111 on Reader Service Card

Liquid Dehydrant . . . A pair of data sheets presenting pertinent information on "Thawzone" liquid dehydrant. One tells what this dehydrant does and when and how it should be used. The other contains a report of actual test data. Available from Highside Chemicals Co.

Circle No. 112 on Reader Service Card

Centrifugal Units . . . Engineers designing comfort and process air conditioning systems are given full capacity and design data for selection of centrifugal refrigeration units in a new bulletin (DS-399) issued by Trane Co. This bulletin describes the "CenTraVac" centrifugal refrigeration unit with internal capacity control and will give engineer all information he needs to select units in the medium horsepower range from 45 tons up.

Circle No. 113 on Reader Service Card

BUY FROM YOUR REFRIGERATION WHOLESALER

"COMPLAINTS and RETURNS

LLUSTZERO

KELVINATOR TEMPRITE LEONARD



Phones: VA ndthe 6021 VA ndthe 5053 Yoghes: VA ndthe 5533

Southern California Refrigeration Co.

1336 EAST SEXTH STREET LOS ANGELES 31, CALIF.

May 28. 1951

Nash-Kelvinator Corporation, 14250 Plymouth Road, Detroit 32, Michigan

Gentlemen:

We've been selling and installing Kelvinator parts and commercial condensing units (both sealed and open type) for the past 18 years.

Our success in the refrigeration business is due largely to the fact that we "sell satisfaction" by selling only dependable, trouble-free merchandise. Your commercial condensing units are all you claim them to be. Unit returns and complaints from our customers are almost zero.

Yours very truly,

So. Calif. Refrigeration Co.



on KELVINATOR Condensing Units through 18 years!"

says A. D. Enns of Los Angeles

Profit by the experience of Mr. Enns—think of his letter when you are selecting equipment for your next installation or replacement job. See the complete range of unit sizes ... and complete line of refrigeration parts and supplies, competitively priced ... at

your nearest Kelvinator Parts Depot. Write, phone, or stop in for helpful information on installation or service problems. Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.



See the complete range of Kelvinator open-type condensing units—from ¼ H.P. to 5 H.P. See the selection of 12
Kelvinator Hermetic models,
up to and including ½ N.P.



PROFIT TODAY... BUILD FOR TOMORROW WITH

Kelvinator

THE NAME THAT SELLS...THE NAME THAT SATISFIES!



KELVINATOR BEVERAGE COOLERS



KELVINATOR FROZEN FOOD MERCHANDISERS



KELVINATOR WATER COOLERS



KELVINATOR ICE CREAM CABINETS



KELVINATOR AIR DRIERS

Circle No. 39 on Reader Service Card for more information

PRODUCTS

For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

Special Service Motor

Product: "Special Service" rated split phase fractional horsepower motor.

Manufacturer: Century Electric Co., St. Louis, Mo.

Features: Has higher starting torque for use where high starting current is not objectionable. Break-



down torque is in accordance with NEMA standard for the basis of rating. Service factor is 1.00. Offered in limited number of specifications. Embodies practically all features of Century's other fractional horse-power motors, including rigid welded steel frame, thick-walled phosphor bronze sleeve bearing with thrust collar, and wool yarn lubrication with reserve oil capacity. Shaft is precision ground, rotor is high pressure cast aluminum, and each is dynamically balanced.

Circle No. 130 on Reader Service Card

Vault Conditioner

Product: "Vaultmaster" selfcontained fur and garment storage vault conditioning unit.

Manufacturer: Walter Haertel Co., Minneapolis, Minn.

Features: Designed to refrigerate and maintain absolute humidity control in vault. Will also fumigate vault and ventilate with filtered air after fumigation process is completed. Available in 2, 3, and 5-hp sizes for handling space up to 15,000 cu. ft. Completely self-contained. Only installation required is connection of electrical, sewer, and water lines. Cooling coil is fin tube type, with fins arranged vertically for quick drainage. Condensing unit uses F-12. All controls and accessories are integral part of system.

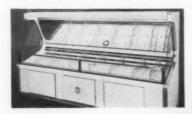
Circle No. 131 on Reader Service Card

Produce Display

Product: Model OV11R open produce display case.

Manufacturer: Ed Friedrich Sales Corp., San Antonio, Tex.

Features: Unique superstructure brings lighting out over center of display, which reflects in a newlydesigned mirror, larger than that used in previous models. This 11-foot



case contains 26.8 sq. ft. of selling display in the shelf area, with 47.4 cu. ft. of capacity in the storage compartment. Drain lines are accessible from either front or back. Sold as single unit or with removable ends for continuous lineup. Also available in 8-foot lengths, as well as 8 and 11-foot non-refrigerated units.

Circle No. 132 on Reader Service Card

Industrial Grille

Product: Heavy-duty industrial air conditioning grille.

Manufacturer: Titus Mfg. Corp., Waterloo, Iowa. Features: First manufactured for Atomic Energy Commission, this new grille now is being installed wherever extra-heavy-duty wall grilles are



needed. Comes in two sections. Volume control part features solid-section "Airfoil" louvers streamlined to minimize noise and turbulence. Each blade individually adjustable. Concealed louver support eliminates mullions and butted construction. Grille face has 14-gauge steel blades set on %-inch centers. In addition, 14-gauge vertical steel support bars are placed on 6-inch centers. 16-gauge steel is used in extra-wide borders of grille face. Comes with standard grade primer coat, but can be custom finished as required.

Circle No. 133 on Reader Service Card

Level Switch

Product: Model AJ-1 "Tektor" switch for level control of practically all liquids and solids.



Manufacturer: Fielden Instrument Corp., Philadelphia, Pa.

Features: No electrical contact is necessary with material under con-



PARTS FOR

Easier Installation Better Performance . . .



DELAVAN has the complete line of parts for the CROSLEY Model "Q" . . .

Write for Catalog 50B

SOOP SIXTH AVENUE DES MOINES 13, IOWA

Bwy Peerless FOR PERFORMANCE

Faster-Freeze Finned



The PEERLESS Finned Faster-Freeze Cube Maker provides both refrigeration and rapid ice-cube manufacture from a single, balance, compact unit. Its fin coils are standard PEERLESS coils with nonsoldered return bends . the ice-cube maker is standard PEERLESS all-aluminum construction. Easy installation and troublefree operation are outstanding features; these Finned Cube Makers are available with either copper or aluminum tubing, permitting choice of refrigerants. Plain type cube makers also available. Sizes, capacities for all requirements. Designed to meet government specifications. Write for details.

Peerless of America, Inc.

1501 No. Magnolia Avenue Chicago 22, Illinois, U.S.A

Circle No. 42 on Reader Service Card

trol. Equipment does not rely on floats, diaphragms, or any moving mechanical parts. Liquids may be of high or low viscosity and may have electrical conducting or insulating properties. Housed in dust-tight, splash-proof, die cast aluminum box with screw-on cover. Electrode connected to instrument through 2-foot length of cable consists of a simple probe 4 to 6 inches long which is inserted into the container at the level at which control is required.

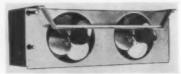
Circle No. 134 on Reader Service Card

Low-Temp Unit Coolers

Product: A line of low temperature unit coolers.

Manufacturer: York Corp., York, Pa.

Features: Seven models available using ammonia refrigerant, and



seven similar models using Freon. Designed for applications requiring below-freezing temperatures, such as frozen food storages, fur storages, meat packing plants, ice cream plants, etc. Units are compact and rapid defrosting is provided by means of water spray. Coolers may be used in multiple where greater capacity is required.

Circle No. 135 on Reader Service Card

Condensate Pump

Product: Vertical condensate return unit.

Manufacturer: Roy E. Roth Co., Rock Island, Ill.

Features: Two sizes handle appli-



cations up to 8000 sq. ft. EDR at 20 psi. Handles water up to 210 F without vapor lock. New vertical design is particularly intended for installations where return piping is close to floor level. Also, unit can be installed in shallow pit when desired without risk of flooding motor which is mounted vertically above pump and receiver. Supplied as complete assembly, including pump, choice of cast iron or steel receiver (10 or 15 gal.), enclosed float switch, and single or three-phase 1750 rpm motor. Simplex or duplex units.

Circle No. 136 on Reader Service Card

FREEZE-DRYING UNIT

A compact, factory-assembled freeze-drying unit, the Stokes Models 203 F, has been announced by the F. J. Stokes Machine Co., Philadelphia, Pa. It employs Freon refrigeration for drying guinea pig complement, cultures, serums, vitamins, and other biologicals.

Drying and freezing are accomplished in a tank beside the condensing chamber, on an electrically heated and thermostatically controlled drying shelf. Sight glass in lid permits inspection during freez-

With batch capacity of 3500 milliliters, this unit offers large volumetric capacity at lowest operating cost. Further information is available from the manufacturer.

Totally Enclosed Motors

Product: Line of single-phase capacitor motors extended to include a totally enclosed fan cooled construction.

Manufacturer: Small and Medium Motor Div., General Electric Co., Schenectady, N. Y.

Features: New design includes starting capacitors and switch mounted within the frame to provide maximum protection with minimum space requirements. Available in ratings of 1 through 5 hp. for use where extra severe conditions of dirt, grit, or moisture are encountered. Also offered in explosion-proof and dust-explosion-proof construction for installation in hazardous locations. Cast iron construction with provision against physical damage, electrical breakdown and operating wear. Cast aluminum squirrel-cage rotors and long-life ball bearings. Easily accessible grease fittings.

Circle No. 137 on Reader Service Card

Limit Switch

Product: Du.op limit switch.
Manufacturer: General Control
Co., Boston, Mass.

Features: As a direct acting switch the du.op has no inherent



characteristics of bounce. Mechanical lost motion which would delay contact operation is eliminated, because instantaneous contact is made at the same fixed point of repetitive plunger travel. Each contact blade is a solid piece of metal directly riveted at the terminals, reducing electrical resistance. Contact arrangement is single pole, double throw, spring return, and will handle up to 20 amperes, 125 volts a. c., non-inductive. Enclosed in compact phenolic-molded housing which has same mounting dimensions as snap-action switches.

Circle No. 138 on Reader Service Card

Frozen Food Case

Product: Glass front frozen food display case with exclusive "Hide-Away" lid.

Manufacturer: Brewer-Titchener Corp., Binghamton, N.Y.



Features: New 10-cu, ft. case features quadruple Thermopane glass front and self-contained insulated lid that slides out of sight under rear deck. Interior is fluorescent lighted. Available with or without superstructure. Holds up to 350 pounds of frozen foods. Divided into four compartments by lateral plate evaporators. Occupies floor space measuring only 53 x 30 inches. Overall height



R-17 ST— This attractive reach-in model in both standard and ice maker types is ideal for homes, club or restaurant use. Dual temperature and freezer models also. 16½ and 20 cu. ft. sizes.

OT-71—The market's best buy in self-service frozen food cases! The case is 6 ft. long, and has a 15 cu. ft. capacity. Illuminated full-color superstructure. Also available with roller thermopane glass doors.



Makers of the world's largest variety of frozen food display cases

Tops for fast selling

The fact that Howard makes more frozen food case types at prices that can't be beaten on the market today means you can give customers exactly what they want—at prices and terms to match their budgets. And remember! Each Howard case is the result of more than 50 years experience in this specialized field.

Make your selling easier! Make greater

Make your selling easier! profits with Howard!

Write for Catalog M

HOWARD REFRIGERATOR CO., Inc. 4800 Worth St. Philadelphia 24, Pa.

Model DS-2486 Combination Display and Frozen Food Storage Case (below)—Capacities of 8, 12, 14½, 16, 19, 24 and 29 cu. ft. Ideal for fast self service sales, display and storage of frozen foods.



P-500 Meat Case (above)—All steel construction with full-angle vision, concealed fluorescent lighting, vapor sealed insulation, add-to-length design and many other features. 6', 8', 10' and 12' lengths.

Model BSC-39 Beverage Cooler (right)

—5', 6', and 8'6" lengths. Stainless steel
top and front apron. Stainless doors
slide back into case. This model gives
100% visability when reaching for bottles. Blower coiling, clean, fast and
dry. Self-contained, ready to plug in.



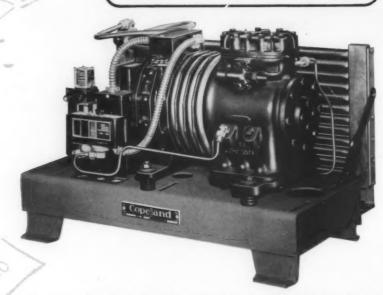
Circle No. 43 on Reader Service Card for more information

the 50's can be prosperous years

FOR VOLUME and PROFIT!

get yours with

DEPENDABLE Sleeping REFRIGERATION



COPELAMETIC

THE ACCESSIBLE HERMETIC

COPELAND
OPEN-TYPE UNITS

A lot of crystal ball gazing and tea leaf reading will not give you the magic formula for prosperity in the next ten years. It's going to take a lot of hard-headed analysis of what your customers want.

With the Copeland line, you'll be well on your way to having the answers to their wants. The line is well-rounded . . . open-type units as well as COPELAMETIC, the Accessible Hermetic. ALL Copeland units are renowned for compact, rugged construction and quiet, economical operation. These are the "nuts and bolts" facts your customers are interested in.

And Copeland helps you sell with a hard-hitting national advertising campaign that pre-sells your prospects. Take the easier road through the fifties. Sell Copeland refrigeration units for success.

COPELAND REFRIGERATION CORPORATION - SIDNEY, OHIO

Manufacturers of

REFRIGERATION UNITS (OPEN-TYPE AND COPELAMETIC), WATER COOLERS

Circle No. 33 on Reader Service Card for more information

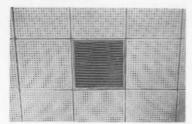
including superstructure is 58 inches. Powered by ½-hp hermetic compressor. All steel bonderized cabinet with white baked enamel finish and vapor sealed insulation. Carries 5-year warranty.

Circle No. 139 on Reader Service Card

Square Ceiling Outlet

Product: Square ceiling outlet for air conditioning system.

Manufacturer: Barber-Colman Co., Rockford, Ill.



Features: Designed and sized to match standard accoustical tile and blend with ceiling pattern. Another model of same outlet has surface flange making it suitable for installation in plaster ceilings. Air supply can be adjusted from vertical to horizontal after installation and can be set to discharge air in one, two, or three directions or to provide full 360-degree distribution. None of these adjustments alter outward appearance of unit. Can be used as return air opening without modification. Variety of finishes available to match installation surroundings.

Circle No. 140 on Reader Service Card

Encased Precipitron

Product: Encased "Precipitron" electronic air cleaner that resembles a factory-fabricated section of air duct



or plenum chamber 96 inches long with a built-in Precipitron.

Manufacturer: Westinghouse Electric Corp., Sturtevant Div., Hyde Park, Boston, Mass.

Features: Assures minimum installation time and expense with maximum air cleaning efficiency. Available in capacities ranging from 8330 cfm at 90% efficiency to 44,000 cfm at 85% efficiency. A 90% efficiency results when air velocity is 333 fpm. When velocity is increased to 400 fpm, efficiency drops to 85%. Overall dimensions run roughly from 5 x 5 x 8 feet for the 8330 cfm unit to 10 x 11 x 8 feet for the 44,000 cfm unit, with approximate weights ranging from 1970 to 4800 pounds. Shipped disassembled because of size. Standard unit includes: enclosure base, top, and side assemblies; partitions for supporting dust collector cells and ionizers; mounted door interlock switches; power pack hangars; and high voltage cable. Erected units are complete in every detail.

Circle No. 141 on Reader Service Card

Fan Nozzles • • • •

Product: New line of flat spray or fan nozzles.



Manufacturer: Bete Fog Nozzle, Inc., Greenfield, Mass.

Features: More uniform coverage with less waste of spray. Side jets or "horns" containing coarse droplets have been eliminated and spray pattern made heavier in center than at edges of fan. Less overspraying due to doubling up of sprays from adjacent nozzles, with the result that combined coverage is unusually uniform. Line includes 13 discs made of stainless steel with flow rates of 1/10 to 10 gpm and spray angles 50 to 90 degrees. All discs interchangeable in brass cap and assembly having a 1/4. inch male pipe connection. Built-in removable strainers are available for the smaller nozzles.

Circle No. 142 on Reader Service Card

Spot Merchandiser

Product: Portable self-service "spot" merchandising case for frozen foods.

Manufacturer: Victor Products Corp., Hagerstown, Md.

Features: Equipped with hinged lid, plus balloon type extruded rubber gasket, molded into one piece, which insures a complete seal. Lid is



locked in open vertical position by a supple, positive-action support arm. Mounted on heavy ball bearing casters for easy movement to heaviest traffic points. Cabinet made of heavy gauge steel, electrically welded and finished in beautiful gleaming white baked-on enamel. Exterior dimensions are 3934 x 28 x 3934 inches. Available in 7½ and 9-cu. ft. models, larger of which has extra deep compartment for storage of reserve stock.

Circle No. 143 on Reader Service Card

Gas Purger

Product: Knowles non-condensible gas purger.

Manufacturer: Belt Ice Corp., Seattle, Wash.

Features: No liquor connection.
Condensing coil gets its liquor from



condensed vapor. Can be put in operation or shut off by one turn of control valve. Suction valve and receiver non-condensible gas valve are always open. Cuts condenser head pressure, saves power. Only two pipe connections to make. Available in two sizes, one for plants 25 tons or smaller, the other for largest sized plants.

Circle No. 144 on Reader Service Card

Window Cooler

Product: Low priced ½-hp packaged window-type room air conditioner (Model M-131).

Manufacturer: Mitchell Mfg. Co., Chicago, Ill.

Features: New type mount allows unit to be used in a conventional double-hung sash window as narrow as 22 inches. Window may be raised or lowered all the way between outside and inside cabinets, thus simplifying window washing. Construction of mount provides simple, quick installation, and does away with window filler panels that black out light and anchor window closed.

Improved coil designed to eliminate bends and other obstacles to rapid flow of refrigerant through evaporator. This assures more concentrated flow of refrigerant through the system, and a greater degree of cooling capacity. Unusual degree of turbulence created at inner surface of tubing so that active refrigerant is constantly delivered to the cold



surface where evaporation takes place. Specially designed fan and filter which removes 99.9% of pollen from air are additional features. Measures only 13½ inches high, 22 inches wide, and 30¾ inches deep, but has capacity of 4200 Btu/hr. Powered by hermetically sealed ½-hp Freon-12 condensing unit. Constructed of 19-gauge furniture steel finished in beige or ivory.

Circle No. 145 on Reader Service Card

Dehumidifier

Product: Dehumidifier.

Manufacturer: Admiral Corp., Chicago, Ill.

Features: In 10,000 cu. ft. of space will remove as much as 3 gallons of water from air over a 24-hour period. All metal unit is a simple plug-in device which requires no more attention than an electric fan. In operating principle, air is drawn over a series of refrigerated coils, the cold condenses the moisture in the air, and the condensate runs into a removable container. The dried air is then recirculated. Stands 30 inches high and 1 foot square.

Circle No. 146 on Reader Service Card

PHILCO BUYS 3 PLANTS

Philco Corp. has purchased three new manufacturing plants in Bedford, Ind., which will add about 175,000 sq. ft. to the company's over-all manufacturing facilities. The plants, all of one-story, fireproof construction, were purchased from Tecumseh Products Co., Tecumseh, Mich.; Emerson Electric Mfg. Co.; St. Louis; and Acklin Metal Products, Toledo.





Lircie No. 46 on Reader Service Card

Torture Tests Prove That

IMPERIAL TRIPLE-SEAL FITTINGS Remain Leakproof





In severe tests, Imperial Triple-Seal Flared Tube Fittings which had had their seats purposely battered, like the one in this unretouched photo, made up into joints that withstood 250 lbs. Freon pressure without the slightest trace of leakage. Conventional fittings, subjected to the same treatment, had to be refaced before they would hold the Freon.

And here's why: a groove is machined into the face of the seat on Imperial Triple-Seal Fittings

bringing you triple-seal tightness in every joint. When the flare nut is drawn up, the copper tubing is forced into this groove making a tight, self-sealing joint even though the face is nicked or marred. Groove is included on all sizes 3/8" and larger.

Additional protection, provided by extra length Dryseal pipe threads, is especially valuable in reconnecting.

Specify Imperial Triple-Seal Flare Fittings to get all this extra protection against leakage. They cost you no more than ordinary fittings—and may save you from costly call backs.

Ask for Cotolog 80-A

THE IMPERIAL BRASS MFG. CO.
536 South Racine Avenue, Chicago 7, Illinois



IMPERIAL

Fittings • Valves • Filters • Driers Floats • Charging Lines • Tools for Cutting, Flaring, Bending, Pinch-off and Swedging

Imperial Triple-Seal Flare

Fittings have 3 seals to give you new, extra pro-

tection against leakage.

Circle No. 47 on Reader Service Card for more information

shipping and handling.



When your customers see the facts and figures, your selling job virtually dis-appears. With precision-made, de-pendable Bendix-Friez instruments you can demonstrate with on-the-spot readings or recordings exactly how much and where your customers need temperature and humidity control for maximum comfort in the home, maximum efficiency in industrial operations. Bendix-Friez instruments are built to U. S. Weather Bureau standards by the world's oldest and largest manufacturer of fine meteorological equipment. Write for complete information.



Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5\%," wide, 1\%" deep—desk or wall mounting.

FRIEZ INSTRUMENT DIVISION of

1340 Taylor Avenue

Baltimore 4, Maryland

Export Sales: Bendix International Divisi 72 Fifth Avenue, New York 11, N. Y. Circle No. 48 on Reader Service Card

ABOUT PEOPLE . . .

Continued from page 41

was responsible for the design and installation of many large systems. His "psychrograph", developed in 1931, is currently being used by Westinghouse Electric Corp.

John F. (Fred) Miller has been named zone sales manager for the



Sherer-Gillett Co. in the Michigan-Ohio-Indiana territory, according to L. O. Bower, vice president. Miller recently resigned as vice president and general manager of Super-Cold

Midwest Co., Chicago. Previously, Miller had served as a sales manager for Libby, McNeill & Libby and the Carnation Co., and during World War II was a captain of infantry.

Harold F. Hagen has been named design and engineering consultant



for the W. B. Connor Engineering Corp. Hagen for over 25 years was vice president and director of research for Sturtevant, and held a professorship of the practice of mechanic-

al engineering at the graduate school of Harvard University. His commercial work includes the design of the fans for most of the country's vehicular tunnels.

Charles Wirth III, manager of the eastern district office of Du Pont's petroleum chemicals division, has been promoted to the position of manager of wholesale sales in the Kinetic Chemicals division of the company's organic chemicals department. Kinetic Chemicals has assumed responsibility for wholesale sales of "Freon" fluorinated hydrocarbons, used as re-



Circle No. 49 on Reader Service Card for more information SEPTEMBER, 1951 . COMMERCIAL REFRIGERATION frigerants and aerosoi propellants, which previously were handled by the company's Polychemicals department. Wirth started with Du Pont in 1939, and in 1947 was made manager of the mid-continent district office for petroleum chemicals sales in Tulsa, Okla. He was made eastern district manager last year.

Four new appointments in General Electric's fractional horsepower motor engineering divisions at Fort Wayne, Ind., have been announced by J. J. Clarkson, divisions' manager. J. Herbert Behm has been named assistant to the manager of engineering on special assignment, Lee R. Beard will serve as division engineer of the AC motor engineering division, Ray D. Jones as division engineer of the development engineering division, and L. E. Ross as division engineer of the DC and specialty motor engineering division.

David K. Patterson had been named sales promotion manager of Servel, Inc. His appointment was announced by John K. Knighton, general sales manager. Patterson has been with Servel since 1947, serving successively as public relations copywriter, dealer magazine editor, and assistant sales promotion manager.

Appointment of Fred Riedel as chief engineer of Baker Refrigeration



Corp., South Windham, Me., has been announced by Frederick W. Smith, president. In this capacity Riedel will have complete charge of all design, research and desearch and des

velopment engineering for the company air conditioning and refrigeration equipment. Since coming to the United States from Germany in 1927. Riedel has been with York Heating & Ventilating Co., Carrier Corp., Houde Engineering Corp., and later became chief engineer of the air conditioning and refrigeration division of Worth-

ington Pump & Machinery Corp. He is a registered professional engineer in the state of Massachusetts.

Henry L. Poffenberger has been appointed district factory representative for Schaefer, Inc., Minneapolis, in Ohio, Kentucky and eastern Indiana. He will make his headquarters in Columbus, Ohio.

BUY FROM YOUR REFRIGERATION WHOLESALER Henry Geissler, power apparatus appliance engineer, has been appointed to the position of product manager, Heavy Duty Fan Equipment, by Westinghouse Electric Corp., Sturtevant Div.

J. L. Coleman, Jr., was elected president of Sauer, Inc., Pittsburgh mechanical contractor firm, at a recent meeting of directors. He has been vice president and secretary of the company since 1934.



when you use Gee-Kleer

The Combination Sight Gauge-Drier

As sure to win as a pat hand is your quick diagnosis of refrigeration trouble with the Cee-Kleer Sight Indicator. Here is *full vision* from any angle — completely around the sight gauge. You can spot trouble instantly.

Combination Cee-Kleer Sight Drier helps you handle service calls faster, more effectively and with greater satisfaction to your customers. Every service job builds more business when you use CEE-KLEER.

Every Cee-Kleer Sight Drier, Sight Gauge Indicator or Refillable Drier is unconditionally guaranteed to be satisfactory.

PRODUCTS, INC.
947 W. Sixth Street
Cincinnati 3, Ohio

If your distributor does not have Cee-Kleer in the size you need, fill in and mail this coupon TODAY.

Saun ma	more intorn	nation of (CEE-KLEER.	
My Dist	ibutor is			
Name	*******	*********		
Address.				***********

Circle No. 50 on Reader Service Card for more information

THE HEATING SIDE OF AIR CONDITIONING . . .

Continued from preceding page

sources if you're interested, and you can then study them and decide whether you want to enter a formal bid.

Don't get the impression from this that all heating jobs are done on a cut-and-dried basis; that isn't the case at all. Individual ingenuity in planning the system, and engineering and installation know-how—these qualities still give the firm that has them a jump on competitors. The reputation you've built up as a sound, workmanlike refrigeration operator should work to your advantage, too. Companies with which you've established strong contacts in refrigeration may be pre-disposed toward you in this newer field, especially if the heating work they're contemplating is a revision of an existing system and not necessarily a completely new heating plant.

4. Estimating your jobs accurately, is all-important in determining whether or not your bids will be acceptable. They're all-important from another angle too—whether or not you make a profit on the jobs you do. So your estimator is a key man in your heating department. It will pay you to get the very best one you can. It may cost you plenty, but it will save you plenty, too.

5. Commercial and industrial heating jobs, as a rule, move along much more slowly than is the case with refrigeration installations. Rush jobs, not at all uncommon in refrigeration, are an exception in heating. Bids are called for well in advance; the contractor has considerably more time in which to study and quote on the proposed plans, and considerably more time is alloted, in most cases, for the job to be installed, tested, and completed.

This extra time works to advantage in allowing careful estimates to be made, but it carries with it problems of a different nature, which will be outlined below.

6. One of the problems that the dealer or contractor who's new in the heating field will have to contend with is the matter of inventory. Many of the major components of heating system—boilers, tanks, and piping, to name some—are bulky items. To store them requires considerable extra warehousing space. Some provision for this additional space will have to be made, perhaps through the leasing of storage facilities away from the dealer's regular place of business.

Men in the business say that it's not advisable to try to store much of your heating equipment in with your refrigeration inventory. Mix-ups and overcrowding are bound to result. Best thing to do, they advise, is to (1) clean out a section of your warehouse space and use for storage of heating equipment only, or (2) rent outside storage space.

Another practice they advise against is delaying your purchases of necessary equipment 'til the last minute in the hope of escaping the inventory problem in this way

This will almost surely get you into trouble in obtaining necessary equipment in time to complete your jobs on schedule, and is certainly not a recommended practice in these days of delivery uncertainties. There's also the additional possibility of a change in prices,

which would reduce your profit on jobs taken at a lower

7. The longer time-cycle for most jobs, plus the necessity of ordering equipment well in advance to be sure you have it on hand when it's needed, combine to make the financing of a heating department require special consideration. Articles to be published as a supplement to the information presented in this section will study this and other operational phases of heating sales.

Another problem affecting the financial operation of this department may be the fact that payment for jobs tends to be stretched out in much the same manner as is the mechanical completion of the jobs themselves. Many of the commercial heating jobs involve schools, churches, local and county governmental units, and such-like, who must follow a definite routine in payments, and in the course of which some delays can't well be avoided. If you're lucky, you may not encounter them; but it's wisest to allow for them in your financing arrangements.

8. You may have to learn to keep in touch with a different class of sources as leads for sales of heating equipment. Architects, builders and general contractors are prime sources to keep in touch with; and such services as Dodge Reports and others which show where and what types of building activities are going on in your area are invaluable aids in searching out sales leads. If you know some of these sources fairly well through your work with refrigeration equipment, you're off to a good start.

Your job is to acquaint all the sources you can with your interest in heating work, and to convince them that your company is capable of handling this work satisfactorily. Much of your "selling" work may well be done in these contacts.

You won't want to bid on all the jobs that are going in; and you don't have to bid on all the jobs for which you request details. But it is important for you to know what, and where, they are.

OFF-PEAK BUSINESS . . .

Continued from page 36

R-S-C doesn't start servicing these units it stores until most of them already are in the warehouse. This avoids a great deal of confusion which would otherwise result. And once the service program starts, the crew simply moves down one aisle of the storage area and up another, checking each unit in its turn.

About April 1 the firm starts calling its customers suggesting that they make arrangements for re-installing the units before a sudden spell of hot weather appears. As a result of this clever approach about 50% of the units are usually out of the warehouse by the first of May.

In the actual servicing of the units, a flat charge is made for a routine check and clean up, just as it is in any type of maintenance contract, with an extra charge being made for any needed repairs not covered by the initial check-up.

Owners of older units, or those needing major repair, are approached on the idea of replacing these units with new window coolers. Trade-ins received on such deals are completely reconditioned and resold with a 1-year warranty to customers looking for bargain-price cooling.

Always Look for the Yellow and Black DETROIT Boxes—the Sure Sign of a Good Refrigeration Wholesaler!

How do you tell a good refrigeration wholesaler—by his courtesy, by his speed in filling orders, by his ability to supply you with the product you want when you want it? These are all good points, but more important is the quality of the products he sells. And when a wholesaler stocks and sells DETROIT products, you know he stocks and sells the best. That's because all DETROIT Expansion Valves, Solenoid Valves and Controls are built for dependable, economical performance—to supply your customers with long years of reliable trouble-free performance. So always look for the familiar yellow and black DETROIT boxes on the shelf—the sure sign of a good refrigeration wholesaler!



ASK YOUR DETROIT WHOLESALER FOR YOUR SUPPLY OF "INDUSTRY SLOGAN STICKERS!"



Now Selling Both Your Independent and Chain Store Customers!

INSION VALVES - SQLENOID VALVES

DETROIT'S successful, hard-hitting plan plugging periodic service checkups now gives you the additional benefit of big, profitable chain store coverage—a rich refrigeration conscious market! In addition, full page DETROIT advertising will continue to stress the importance of proper refrigeration maintenance to your customers in the independent grocery, meat, restaurant, dairy and ice cream fields. It's a powerful plan-building new business for refrigeration servicemen everywhere!



S 900 TRUMBULL AVENUE, DETROIT S, MICHIGAN DIVISION OF AMERICAN RADIATOR & Standard Sanitary Corporation CANADIAN REPRESENTATIVES: Railway & Engineering Specialties, Ltd.—Montreal, Teronto, Winnipeg EXPORT DEPARTMENT—Box 218 Ridgefield, New Jersey



DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE
SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION
ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

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REMA Seeks 2 Amendments In Proposed Excise Tax Law

Two amendments to H. R. 4473 in tion. Berg is assistant sales manager connection with the application of excise tax on refrigeration equipment were proposed to members of the U. S. Senate Committee on Finance by Rudy Berg, chairman of the excise tax committee of the Highside Equipment Section of Refrigeration Equipment Manufacturers Associa-

of Copeland Refrigeration Corp.

The amendments proposed are designed (1) to exempt from excise tax sales by or to wholesalers or jobbers who resell to manufacturers of endproducts, and (2) to allow the present "exchange basis" on which such components as motor-compressors are

handled between customers and wholesalers or manufacturers to be continued tax-free.

Supporting the first amendment proposed by REMA, Berg pointed

"Under the Internal Revenue Code, (sec. 3405(b), as amended by the Revenue Act of 1950), and the regulations thereunder (Treasury Regs. 46, with amendments currently proposed, see Federal Register of May 19, 1951), the manufacturer of such component parts as condensing units, compressors and motor-compressors, and which are otherwise taxable, may sell them tax-free under exemption certificate to a manufacturer of end-products such as refrigerators and freezers (whether or not such end-products are themselves taxable). With one exception noted below, there is, however, no exemption applicable to sales by or to wholesalers who resell to the manufacturers of end-products (unless any such wholesalers who resell to the manufacturers of end-products (unless any such wholesaler qualifies as a "manufacturer" by reason of the fact that he also assembles complete end-products). The exception mentioned relates to wholesalers who are specifically registered with the Bureau of Internal Revenue as vendees of articles for resale to manufacturers (see Internal Revenue Code, sec. 3442, and Regs. 46, sec. 316.20-23). Registration under section 3442 is limited to wholesalers who resell to manufacturers of taxable end-products.



"The manufacturers of these taxable component parts are substantially dependent on the stocking and credit facilities of the wholesalers and jobbers representing their equipment in strategically located cities throughout the United States. These wholesalers, of course, carry inventories of the products they represent in order to serve the field needs of smaller manufacturers who are not and cannot economically

be served direct.
"It is our contention that in applying the excise tax to refrigeration equipment, it was not the intent of Congress to change any established medium of distribution then in effect. The present discrimination against the wholesaler, however, imposes a costly and forced change in long-established distribution channels, and disrupts relations of long standing between manufacturers of taxable refrigeration equip-ment and their wholesalers. The wholesalers and jobbers in our industry repre-sent a business of integrity and a vital medium of distribution, particularly for the smaller manufacturers.

"We appeal for an amendment to the House Bill to cover the following points:

- "1. To permit a wholesaler to accept an exemption certificate from a qualified manufacturer, and in turn extend a similar exemption certificate to his manufacturing supplier, in order to permit him to purchase, tax free, equipment which is to be furnished specifically to meet an order for which he has an exemption certificate from his manufacturing customer.
- To permit a wholesaler to extend an approved exemption certificate to his manufacturing supplier for credit of tax paid on equipment sold under ex-emption certificate from his



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stock to a qualified manutacturing account customer.

"Safeguards to prevent abuse can be readily supplied by regulations of the Treasury, for which our proposed amendment No. 1 expressly provides.

"The foregoing facts were discussed on Jan. 3, 1951 during a joint meeting of a committee of manufacturers and whole-salers with officials of the Bureau of Internal Revenue. We assume that your staff members will, as a matter of routine, ascertain the position of the Bureau on this proposal. We cannot, of course, in any way speak for the Bureau, but we believe you will find that the Sales Tax Division is sympathetic to this problem.

In support of the second suggested amendment, Berg's statement said:

"Where a component part, such as the motor-compressor of a taxable type refrigeration unit, is returned to us, out of warranty, for repair, no tax applies if the identical returned motor-compressor of the customer is repaired and returned to the customer. When so handled, however, the cost of repair is greater because of the individual handling necessary. Further-more, the customer is without the use of his equipment while the compressor is enroute to and from the factory and during the time required for repair. In the interest of lowest possible prices to the user and to minimize "out of use" time, manufacturers have been following the practice furnishing (through their stocking wholesalers or jobbers, or on occasion for immediate direct shipment from the factory) an exchange compressor of the same type obtained from a common "repair pool" stock at a flat rate price. Present Internal Revenue rulings are that when so handled from a repair pool, the tax ap-plies and is not even limited to the cash amount received; the tax being based on the manufacturers established selling price of the same type compressor when sold new.

"It is out contention that it was not the intent of Congress to impose a tax which is, in substance, a penalty on user maintenance of existing essential food preserva-tion equipment. It seems to us that the tax should not apply in this situation, since it is in substance the equivalent of the ordinary repair job, which is not taxed."

200 ATTEND CHICAGO ASSN'S GOLF OUTING

(See photo on page 71)

Almost 200 members and guests attended the 4th annual golf tournament and dinner given by the Refrigeration and Air Conditioning Contractors Association of Chicago recently at Midlothian Country Club.

In addition to the leading Chicago contractors, those present included representatives of refrigeration equipment manufacturers and wholesalers, union officials, and Chicago city officials.

The REWA trophy, awarded each year to the member having low net under the Peoria handicapping system, went to O. W. Peterson of Indoor Weather, Inc. A second trophy

having low gross, T. C. Johnsen of Johnsen Refrigeration Co. This trophy was donated by Marc A. Shantz, Tecumseh representative.

To equalize things for non-golfers, half of the more than 100 prizes were awarded on a dinner ticket drawing. Alphonse Gerat, of A. G. Refrigeration Sales & Service, Inc., and Earl McLean, of Merchants Commercial Refrigeration Engineering Sales, were co-chairmen of the golf committee.

BUY FROM YOUR REFRIGERATION WHOLESALER

CENTRAL AMERICA'S FIRST AIR CONDITIONED MOVIE

Air conditioning literally "stole the show" at the recent opening of the 1500-seat Teatro Salazar in Managua, Nicaragua, said to be the first air conditioned theater in Central America. First-night patrons included President Somoza and his

Air conditioning equipment for the theater was sold by Typhoon Air Conditioning Co. through its Managua representative, Carlos N. Lacayo & Co., Ltd.

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THIS BEAUTIFUL, sanitary stainless steel top is the style leader of the water cooler industry! Won't crack or chip; easy to keep clean. Attractive Temprite bubbler operates with a gentle finger-tip pressure, delivers a smooth stream of perfectly cooled water without spurting or splashing.



BOTH FRONT AND SIDE PANELS may be easily and quickly removed for access to cooling mechanism.



FOOT PEDAL flow control is optional, yet, when applied to the cooler, the finger-tip control is retained, operating independently of the foot pedal. Either may be used as desired.

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- You'll appreciate the meaning of a friendly association, when you tie-up with Temprite!
- We are experienced manufacturers... liquid cooling has been our business since 1929 . . . and our purpose is to make the best water cooler obtainable!
- The design of a Temprite Water Cooler is so universally acceptable, that you'll be able to sell Temprites wherever perfectly cooled drinking water is needed . All Temprite Coolers meet the most rigid local and national sanitary code requirements!
- The Temprite line is a quality line; measuring up, in every detail, to the highest Plumbing and Refrigeration standards.



Protected by Five-Year Warranty

YOU CAN OFFER TEMPRITE COOLERS



with 27 combinations of features

SIX BASIC MODELS of Temprite pressure-bubbler type coolers, with 27 combinations of features, make it possible for you to meet all individual requirements.

Standard capacity sizes are 4 g.p.h., 6 g.p.h. and 10 g.p.h. with 80° inlet water temperatures and a palatable 50° drinking water outlet temperature. Available with hermetically-sealed or open type compressors, air or water cooled condensers. Any power characteristics can be met.

An explosion-proof Temprite model is available for use in potentially hazardous atmospheres containing gasoline, petroleum, lacquer solvents, natural gas, grain, wood and coal dusts, etc., etc. Bottle cooler and storage compartment model also available.

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Southern California Contractors Broaden Program of Activities

"A trade association is designed for the rendering of service to members. Since the size, business interests, and methods of operation of each member is different, no member will normally use all services of the association. A portion of the services of the association are designed to interest each member so that all will be benefited by its activities."

With that practical and straightforward statement, the Refrigeration and Air Conditioning Contractors Association of Southern California, Inc., leads off a recent membership bulletin which proceeds to outline in considerable detail the broad program of membership service to which it was committed. For the benefit of contractor groups in other localities which may be endeavoring to intensify their own activities, a condensation of this well integrated program follows:

1. Federal Regulations. The executive secretary of the association has subscribed to services which place on his desk within 48 hours any governmental regulation issued concerning materials, prices, or

wages. Any such regulations relevant to association members are then digested and passed on to the membership in the form of a special bulletin.

2. Labor Relations. The association is the collective bargaining agency for its members on negotiations and grievances with the branch of U.A. 250 known as Refrigeration Fitters. All unsettled grievances between members and the union can be handled through the association office.

Association members also employ members of other unions, and recent developments point to assistance which the association can give its members in this regard.

- 3. Apprentice Program. Conversations have been held with the apprentice coordinator in charge of refrigeration fitters. It will be the function of the office of the executive secretary to implement the work of the apprentice committee in an effort to achieve maximum cooperation of association members in all elements of the apprentice program.
- 4. Legislation. During the 1951 legislature, the association acted upon such proposed legislation as the repeal of the listing of sub-contractors on public works, the permitting

of additional regulation of contractors by cities and counties, and the attack on group compensation insurance.

The mechanical trades in the construction industry—such as refrigeration, air conditioning, heating, and plumbing—have been subjected to regulations from every governmental source. It will be the policy of the association to act in cooperation with contractors associations, both general and sub, for the purpose of presenting a unified front in matters of legislation affecting the construction industry.

- 5. Ordinances. Problems of interpretation of ordinances, and conflicts between divisions having jurisdiction over refrigeration work will be handled by the office of the executive secretary.
- 6. Group Workmen's Compensation. The office of the executive
 secretary will continue to cooperate
 with the State Compensation Insurance Fund in the questions relating to group insurance for members
 of the association. In addition, the
 association should assist members in
 improving conditions of safety in
 their own operations.
- 7. Home Show. The association is one of the owner-sponsors of the Home Show. It is recommended that, in cooperation with other sponsoring organizations, the association have an active voice in the affairs of the Home Show. It is also recommended that the association sponsor an exhibit in the 1952 Home Show, assisted by manufacturers of refrigeration equipment.
- 8. Inquiries. The association will continue to answer all inquiries of members concerning any question in the refrigeration field, providing the information is available.
- 9. Relations with Governmental Authorities and Other Trade Associations. The association intends to maintain communications with the various governmental agencies whose

CHICAGO CONTRACTORS AND GUESTS ENJOY ANNUAL GOLF OUTING



OFFICERS AND GUESTS of the Refrigeration and Air Conditioning Contractors Association of Chicago are shown here at dinner following their fourth annual golf tournament recently at Midlothian Country Club. Reading from the left: Pat Murray and James McKeague, of the Department of Boiler and Refrigeration Inspection, city of Chicago; A. J. Meany, John Boldwin, William Ostrom, Wilson Frankland, Martin Ward and William Klicker, of Local 597, Pipe Fitters Association; Hol Wheeler, Air Comfort Corp.; Harry Bransky, Bransky Refrigeration Co., as-

sociation president; Miss Edna Berggren, executive secretary; George T. Howe, Accurate Electric Refrigeration Service Co.; John Hogan, attorney for union; Harvey Miller, Murphy & Miller, Inc.; Joe Phillips, Local 597, Pipe Fitters Association; Tom Reedy, North Town Refrigeration Corp.; Alphonse Gerat, A.-G. Refrigeration Sales & Service; and Earl McLean, Merchants Commercial Refn. Engrg. Sales. Gerat and McLean were cochoirmen of the galf committee.

(Photos by Irving Alter, Harry Alter Co.)





A novel and profitable "double-duty" use for air conditioning has been adopted by Smilen Brothers, Inc. chain of fruit stores in New York City. Using packaged air conditioning units (Typhoon), Smilen Brothers manages to convert its comfort air conditioning system into cold storage equipment at night, with a considerable saving in time, labor and spallage. At Hirst, air conditioning for the fruit store chain was strictly for customer comfort, good will, employee morale and efficiency, and the other proved advantages—but lately the air conditioning units role has been doubled. Instead of picking up all the produce from the racks at the end of the day and putting it in cold storage for the night, the air conditioning equipment is left to run over-night, and the produce left on the racks. Using two 5-ton packaged units, instead of a 7½-ton

unit for comfort cooling alone, night-time temperatures can be pulled down and held between 58 to 62 F. At left in the photos above is the interior of a typical Smilen Brothers store, showing ceiling diffusers which are connected to a single 5-ton conditioner. The photo at right shows both 5-ton units in the store's stock room—the one at the left cools the front selling space, and the other unit cools the stock room and acts as booster for the front area when required. The company says that the savings in time and lobor alone more than compensate for the additional tonnage and the 24-hour operation of the equipment. Leonard Morris and Harry Eichhorn, of Five Towns Refrigeration Co., Inc., designed and installed the system.

acts affect the membership and to continue its affiliation with other trade associations.

- 10. Monthly Bulletin. The association has had an excellent response to its monthly bulletins and it intends to continue these in addition to sending out special bulletins whenever any situation requires such supplemental information.
- 11. Publicity. The program of the association is based on the premise that the association should be a strong factor in the construction industry and in the community. To that end the association should attempt to make known its activities to various trade papers in the construction industry. It should also be the duty of the association to cooperate with the publishers of the trade papers for mutually beneficial objectives.

OPS RULING CLARIFIES REBUILDERS' STATUS

The Office of Price Stabilization recently amended its general manufacturers' order (CPR 22) to make it clear that the definition of manufacturer does not include a person who merely rebuilds, reconditions, renovates, renews or otherwise restores a used commodity.

The question needing clarification had arisen in the case of engine rebuilders and others, OPS said. Neither CPR 22 nor CPR 30, the machinery order, applies to rebuilders and reconditioners.

Here Are Basic Points in CMP Regulations 5 and 7

CMP Regulations 5 and 7 have replaced the former NPA Regulation 4, which governed maintenance, repair and operating supplies and minor additions of capital equipment.

CMP Regulation 5, which replaces NPA Regulation 4, provides for acquisition of maintenance, repair and operating supplies under the Controlled Materials Plan, while CMP Regulation 7 does the same for parts and materials needed by repair shops.

Both of the new regulations provide self-allotment procedure to obtain materials for MRO and repair shop needs. No application to NPA is required.

Following is a digest of the important provisions of both of the new regulations:

CMP REGULATION 5

This regulation replaces NPA Reg. 4 which had previously governed MRO supplies.

The regulation establishes:

 Allotment symbol MRO for use by every business enterprise, government agency, and public and private institution in obtaining controlled materials for MRO supplies and for minor capital additions without applying to NPA.

2. The rating DO-MRO for obtaining non-controlled materials by these

businesses, agencies, and institutions.

The regulation requires:
1. That an order calling for delivery after the third quarter of 1951 placed prior to the effective date of the regulation and bearing the DO-97 rating, must be converted in accordance with provisions of CMP Regulation 3.

2. A person who applies for materials using the MRO symbol or the DO-MRO rating to establish his quarterly MRO quota. Capital expenditures are not included.

3. A person who establishes a quarterly MRO quota over \$1,000 must within 30 days notify NPA in writing of the quota established, the base period used, the method of computing the quota and the corrections made for seasonal or other factors.

The regulation permits:

1. A person not operating in any part of the calendar year 1950 to establish the MRO quota necessary for his operation. If the quota exceeds \$5,000 during any quarter he must have written approval of NPA. Exempted are:

1. Persons who order during any quarter MRO and materials for minor capital additions totaling not more than \$1,000.

Persons who use the MRO symbol and the DO-MRO rating to order, during any quarter, materials which aggregate not more than 20% of their MRO quota for such quarter.

CMP REGULATION 7

This regulation covers repair parts and materials for repairmen under the Controlled Materials Plan, and



TWO-WAY

Designed for applications above 35° F., compact and efficient, for direct draw bars, back bars and reach-in refrigerators where space is limited. In two sizes, 90 and 135 B.T.U. (Basic refrigeration rating.)



PACEMAKER UNIT COOLER

Provides efficient compact "low sides" where fixture temperatures above 35° F. are required. For back bars, novelty boxes, walk-in coolers, etc.

PANEL TYPE CHILLATOR

Designed for wall mounting. For reach-in cabinets, beverage coolers, back bars and small walk-in cooler applications above 35° F.

SPECIFY Luay UNIT COOLERS

... Take the headaches out of installation and service jobs!

An advantage of specifying McQuay Unit Coolers is the ease with which they can be installed and the minimum of service they require. McQuay Unit Coolers are designed to make your installation job simple. Connections are placed where you can get at them.

For trouble-free refrigeration or comfort cooling, it's McQuay. Only McQuay gives you Ripple-Fin coils with fins permanently bonded to tubes by hydraulic expansion. Consult the McQuay representative in your territory or write McQuay, Inc., 1643 Broadway St. N.E., Minneapolis 13, Minn.



RADIAL UNIT COOLER

For refrigeration applications above 35° F., as well as for economical comfort cooling installations in small offices and shops. Allows maximum head room. In seven sizes, from 200 to 870 B.T.U. (Basic refrigeration rating.) Nominal comfort cooling ratings from 34 to 3 tons.



M. Quay INC.



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IAMISON super freezer doors for modern ice cream plant



OUTSIDE

... STURDY METAL-CLAD DOOR - America's "biggest names in cold storage" regularly team up with America's "biggest name in cold storage doors." This time it's WALGREEN and JAMISON. Through Jamison Super Freezer Doors on Walgreen loading docks pass 3,000 gallons of ice cream, stored at 20 degrees below zero temperature. E-Z Open Two-Point Fasteners maintain tight seal.



INSIDE ... SANITARY STAINLESS STEEL-CLAD DOORS

Jamison Stainless Steel interior doors harmonize with immaculate tile and other stainless steel equipment. Vertical Stainless Steel clad, smooth-sliding door along side permits the rapid, trouble-free handling of 1,000 gallons of ice cream in a single hour—carried on conveyors in pint containers! Get all the IMPORTANT facts. Write for Catalog today. Jamison Cold Storage Door Co., Hagerstown, Md., U.S.A.



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governs methods by which both controlled and non-controlled materials may be obtained.

The regulation establishes the allotment symbol RE by use by repairmen in obtaining controlled rials, and the rating DO-RE for use by repairmen in obtaining products and materials other than controlled materials.

The regulation restricts:

1. Use of repair parts and materials obtained by use of RE symbol or DO-RE rating to repair and main-

tenance work only.

2. Use of RE symbol to obtain controlled materials in excess of 20 tons of steel, 500 pounds of copper, and 500 pounds of aluminum products or materials.

3. Use of RE symbol to obtain copper wire mill products to \$150 worth or to 20% of what used in 1950, whichever is greater.

The regulation prohibits:

1. Use of RE symbol or DO-RE rating on orders for materials when the person for whom the work is to be done is able to obtain materials under the provisions of CMP Regulation 5, the MRO regulation.

CHICAGO ASSOCIATION REVISES DIRECTORY

The Refrigeration and Air Conditioning Contractors Association of Chicago has recently issued its second annual membership directory, which has been distributed to all types of firms in the area using refrigeration and air conditioning equipment.

The directory lists all members of the contractor association, listing the types of refrigeration and air conditioning equipment each handles and outlining the various services that each firm is equipped to perform. Contractors are listed both alphabetically and by type of product, enabling the reader to locate the information he wants with least difficulty.

Names of officers of the Chicago association, members of the various committees, membership qualifications, association objectives and the group's code of ethics are listed in a separate section of the directory.

EVAP COOLER CODE ADOPTED IN EL PASO

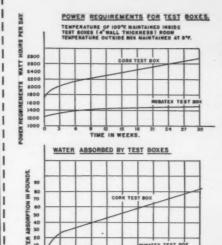
A seven-point code of ethics, designs to prevent bad practices in the evaporative air cooler business, has been adopted by the El Paso (Tex.) Air Cooling and Gas Heating Dealers' Association.

The code prohibits price gouging, the sale of undersized equipment as much as possible, and hasty and shoddy installation and service work.

It calls for the sale of standard

For lowest power cost—use

RUBATEX INSULATION HARDBOARD



These two graphs show clearly why oversize compressors are customarily installed to overcome later inefficiencies of ordinary insulations which absorb moisture. They show too, that the stability of RUBATEX Hardboard means lower operating cost with more economical power installation.

CONTRACTOR

Power economy, plus an initially lower K-factor of 0.21, plus freedom from maintenance are reasons why more and more freezer plants, cold storage rooms, refrigerated railway cars and trucks are insulated with RUBATEX Insulation Hardboard.

RUBATEX Hardboard has zero moisture absorption. No added vapor barrier is needed. It has good structural strength-weighs only 41/2 pounds per cubic foot and will not settle or crumble.

When you insulate, plan for lowest power cost—use RUBATEX Insulation Hardboard. Write for Design Data Book RBH-1-50, Great American Industries, Inc., RUBATEX DIVISION, BEDFORD, VIRGINIA.



Clased cells shut out heat, cold nd moisture. Photo-micrograph of section of RUBATEX Insulation

RUBATEX

INSULATION HARDBOARD

"K" FACTOR 0.21

ZERO MOISTURE ABSORPTION

NO ADDED VAPOR BARRIER

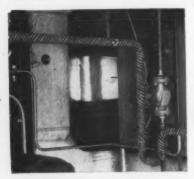
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Positively Controls CONDENSATION DRIP

Prevents rust and corrosion, thus prolonging pipe life.

Just wrap cork-filled NoDrip Tape around cold water pipes, suction lines and joints running from refrigerating machines to condensers. Also used on refrigerant lines in air conditioning systems and on cold water pipes in basements.



NoDrip Tape is effective immediately. It can be painted. Clean and easy to put on, without tools, brads, etc.



CONTRACTORS: Include NoDrip Tape protection in your estimates, not only to stop dripping, but for the sake of good appearance on finished in-

Roll covers about 10 feet of $V_2^{\prime\prime\prime}$ pipe. \$1.69 list. Higher west of Rockies and Canada. Order through your supply house or write for in-

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brand equipment, the use of modern, efficient installation methods, speedy response to customer calls for service, and the employment only of licensed mechanics who meet local standards and ordinances.

Jay Turner, president of the association, said a grievance committee will look into all complaints and that action will be taken against any member who violates the code.

Besides Turner, members of the association are James V. Lawless, Wiggs Appliance Co., D. Browning, Duncan & Dupuy, Darr & Messing, Peeler-Hanson-Wilson Co., Sears Roebuck & Co., Maytag El Paso Co., George W. Perry, H. Welsch Co., R. C. Schwarze, Southwestern Sheet Metal Co., and Case Industrial Service.

AIR CONDITIONING IS HELD LEGAL EXPENSE

There is nothing in the laws of Florida to prevent a county official from air conditioning his office, and paying for it out of excess fees, Attorney General Richard W. Erwin has

The ruling was made in response to a request by Volusia County circuit court clerk Jess Mathas, asking whether there would be any legal objection to his equipping his office with cooling by this means.

According to the law, expenditures are limited to "equipping, maintaining and supplying" the office concerned with the "necessary books, furniture, fixtures and all other things now supplied".

"Air conditioning will undoubtedly add to the comfort and efficiency of the office and I believe the language of the law is sufficiently broad to permit its purchase," the attorney general said.

Volusia County commissioners also approved a bid calling for the air conditioning of the offices of W. Homer Smith, county tax assessor, to be paid for out of the office's earnings.

TEXAS CONTRACTOR IN OWN BUILDING

Texas Refrigeration & Engineering Co., Dallas, Tex., contractor firm, has moved from its former location at 4030 Swiss Ave., to a new building at 158 Express St., in the Trinity industrial district. The company is

For Locating Leaks · Soldering · Heating · Brazing

Prest-O-Lite

REFRIGERATIO OUTFIT

ALL-PURPOSE—Handiest kit yet for installer and service man, 3 stems for soldering, heating, and brazing. Detector for locating noncombustible refrigerant gas leaks.

QUICK-Always ready for immediate use. Torch or detector lights instantly. No pumping, priming, or warmup. Detector locates exact source of any non-combustible halide refrigerant gas leak in seconds.

DEPENDABLE—No delicate parts to get out of order. Unaffected by drafts or weather.



.\$22.50 Outfit illustrated

CONVENIENT-Compact and light. Easy to use anywhere.

· See your jobber or ask us for further information. Linde Air Products Company, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y. "Prest-O-Lite" is a trade-mark.

Order from your local Jobber I

Circle No. 60 on Reader Service Card for more information SEPTEMBER, 1951 . COMMERCIAL REFRIGERATION distributor for Baker Refrigeration Corp., and handles all types of commercial and industrial refrigeration and air conditioning work, including locker plant jobs. F. M. Angus is owner of the company, and John W. Beatty handles most of the Dallas territory on air conditioning.

OPENS NEW STORE

Brandon's Service recently announced the opening of a new store at 3619 Henderson Blvd., Tampa, Fla. J. D. Brandon is owner of the firm, which specializes in heating and cooling equipment.

B.A.C. REPRESENTATIVES IN 3 AREAS NAMED

Baltimore Aircoil Co., Inc., has announced the appointment of the following representatives:

H. L. McMurry & Co., with offices in Jacksonville, Miami and Tampa, as exclusive representatives in the state of Florida.

Bryner-Spranley, 5701 Canal Blvd., New Orleans, as exclusive representative in the state of Louisiana exclusive of the Sheveport area.

RACCA PRESIDENT IS KIDS' FRIEND

Ted A. Reina, president of Refrigeration & Air Conditioning Contractors Association and of the M. & R. Engineering Co., Chrysler Airtemp distributor, recently was honored as "Man of the Week" in Brooklyn, N. Y.

"Uncle Ted", as he is known to his youthful guests, has been giving free movie parties every month for the past three years to kids between the ages of 4 and 14, complete with all the "trimmings"—door prizes, comic books, and sometimes, refreshments.

Reina says each party costs him about \$500. "But they're worth

it to me", he asserts. Started as an effort to entertain his son, Theodore, Jr., and his pals, the movie party plan "somehow mushroomed" until all Flatbush youngsters were "in".

During the intermission at the movie parties, Reina himself or some other person active in child guidance gives a brief, inspirational talk. The talks cover such subjects as good sportsmanship, good citizenship, safety, and similar topics, simply presented. The best time to put over an idea to kids, Ted believes, is while they're enjoying themselves.

Humphrey-Wynne Co., 620 Sterick Building, Memphis, Tenn., as exclusive representative in western Tennessee and northeastern Arkansas.

CLEMSON COLLEGE LAB USING SCHNACKE UNIT

A recent installation using Schnacke refrigeration equipment was made at the U. S. Department of Agriculture Production and Marketing Division laboratory, at Clemson College, Clemson, S. C., by Engi-

neered Temperature, Inc., of Atlanta.

CONTRACTORS

The compressor, a model AFC15 unit, is used in connection with an industrial process system located in the testing laboratory. Future textile executives are being taught the importance of refrigeration and climate control as a part of their education in the industry.

CONTRACTOR MOVES

Stuart Cooling Corp., Miami, Fla., contractor, has announced removal of its offices to 2511 N.W. 2nd Ave.

NEW!

SELF-MEASURING SPILL-PROOF

> FLO DISPENSER!

Accurate Easy to Use



<u>NOW</u>—the new graduated FLO bottle enables you to add the <u>exact</u> amount of this liquid dehydrant to the system without waste or spilling.

Accurate graduations printed in reverse position on the side of the plastic, break-proof container tell at a glance how much you add. A slight pressure on the side of the bottle starts the discharge instantly into the system. Release of pressure stops the flow at the correct mark. It's simple. It's easy. It's accurate.

FLO destroys moisture upon contact as it travels through the system. Keeps the refrigerant dry and at top efficiency.

Fill it!-Don't Spill it!

AT YOUR JOBBER
ALLIN MANUFACTURING CO

1153 West Grand Avenue, Chicago 22, Illinois

Pinnacle

—no other line gives your customers so much Satisfaction, Quality, Economy!

PROFITS FOR YOU!



America's Complete Line



Expert Dept.: 39 Broadway, New York

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PL

It's NEW and IMPROVED



Whether you're distributor, dealer or service man, you can put your compressor oil business on "Profit Street" by handling the new and improved Texaco Capella Oil (Waxfree). Here's an oil that assures clean compressor operation even at temperatures of -100° F.

Texaco Capella Oil (Waxfree) won't precipitate wax. Tests prove its haze and floc temperatures are definitely lower than all other oils. In addition, Texaco Capella Oil (Waxfree) has the extreme purity, low pour test, oxidation resistance and freedom from moisture that assure

efficient, low-cost operation. It will not react with refrigerants.

There is a complete line of Texaco Capella Oils (Waxfree) to meet the requirements of every type and size of compressor... of every temperature and operating condition. Available in specially sealed 55-gallon drums; 5-gallon, 1-gallon, and 1-quart cans.

New and improved Texaco Capella Oils (Waxfree) open up new sources of extra business and extra profit for you. Order them today. The Texas Company, 135 E. 42nd St., New York 17, N. Y.



TEXACO Capella Oils (Waxfree)

FOR ALL AIR CONDITIONING AND REFRIGERATING COMPRESSORS

Circle No. 63 on Reader Service Card for more information

REFRIGERATION APPLICATIONS MANUAL

By Harold Smith

Readers are invited to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting one will be published in these columns. All problems should be clearly and completely stated and addressed to: COMMERCIAL REFRIGERATION, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.

PROBLEM

44R ECENTLY I took over the servicing of a locker plant, which was new four years ago. Compressor hammers something terrific; can be heard for two blocks. The owner says it has always operated that way. Two years ago a new compressor was installed. This made no difference.

"This is a Copeland compressor, using F-12. The suction line is 1½ inches, 22 feet long, 19 of which are outside of the locker room in a temperature of about 65 degrees. This line frosts back to the compressor, sometimes including part of the side plate. Suction pressure is 6 lbs.

"I can reduce the suction pressure to 8 lbs. by choking down the expansion valve. This puts the frost line back about 18 feet from the compressor and eliminates all signs of hammering, but when I do this the temperature cannot be pulled down below 10 degrees. Machine cuts in at 7 F and out at zero, normally.

"When machine is operating at 6 lbs. suction, temperature drops 4 degrees in 30 minutes and takes 2½ hours to get down the other 3 degrees. Machine operates about 3 hours on and 3 hours off.

"Locker room is 19 x 36 x 8 feet, slab floor, pumice block walls, well insulated, some leakage at ceiling. Blower coil is Zeropack L5-1, No. 39818. Compressor—Copeland water cooled, 5 hp, model 503 W.F.L., body No. 51-P.23.

"Temperature of liquid is 90 F. The coll is clean, and passing plenty of air, and is defrosted daily. Stuff going into the locker room will not exceed 200 lbs. per day. Night and day chart does not show much variation. Outside temperatures at night average 45 degrees, days 60 degrees."

SOLUTION

T IS impossible for us to figure the total refrigeration load involved on this job as you have not told us the room temperatures; the kind of insulation material used or its thickness; whether insulation is used in all walls, floor, and ceiling; or whether the building dimensions are outside or inside.

We have used our best judgment, however, and would assume that the hourly load would range somewhere between 14,000 to 18,000 Btu per hour. This estimated load would indicate that both highside and lowside equipment is of sufficient capacity to handle the load.

Your principal trouble seems to involve compressor noise which seems to be caused by frost backs to the compressor allowing liquid refrigerant to get into the cylinders.

We would recommend that you attempt to operate the system at a lower suction gas temperature—say 4 pounds or about -10 F suction temperature, figuring you are after a zero degree temperature in the locker room. This lower refrigerant temperature will increase the lowside efficiency. Use a large heat exchanger (one for a 2-ton load) on the suction line to retard and control frost backs.

The condensing unit should have adequate capacity to handle the load at this lower suction temperature, as it is rated at approximately 24,600 Btu's with -10 F gas and 4 pounds suction pressure.

This procedure will undoubtedly change the operating time but should give you satisfactory temperatures and eliminate the pounding which is undoubtedly caused by liquid returned to the compressor. The heat

exchange should stop the liquid and vaporize it so that only gas returns to the compressor.

We believe our recommendations will improve this operation, as the information you have given us indicates the equipment is entirely adequate to handle the load unless heat leak is considerably heavier than we have estimated from the information you have given us.

BOOK REVIEW

Title: Modern Air Conditioning, Heating and Ventilating.

Authors: Willis H. Carrier, Inte chairman of the board of directors, Carrier Corp.; Realto E. Cherne, consulting engineer, Rochester, N. Y.; Walter A. Grant, director of research, Carrier Corp.

Publisher: Pitman Publishing Corp., New York City.

A revised and more comprehensive edition of an earlier work, this new book covers thoroughly the broad and overlapping fields of heating and ventilating, air conditioning, and related refrigeration engineering.

It covers the theoretical aspects of the field as well as dealing on the practical level of design, application, and use of systems and equipment. Attention is given to figuring costs in order to determine the most economical investment.

Revisions include new developments and new data uncovered during the past decade. Absorption refrigeration, air purifying methods, electrostatic precipitation, and radiant and panel heating are given extended treatment. Dr. Carrier's latest psychrometric chart based on enthalpy also is included.

Appendix has been revised and expanded to include previously unpublished tables on such subjects as local outside design conditions in this country and abroad, heat transmission and solar heat gain through various types of walls and substances, and properties of saturated steam and saturated refrigerant vapors. It also includes a valuable section on air conditioning guarantees.

MITCHELL DISTRIBUTORS

Mitchell Mfg. Co. has appointed the following as distributors of its room air conditioners:

F. B. Connelly Co., Portland, Ore., and Seattle; Prudential Distributors, Inc., Spokane; Glenn Earl, Inc., Salt Lake City; Miami Valley Distributing Co., Dayton, Ohio; Hollander & Co., Inc., St. Louis; Frank Lyon Co., Little Rock, Ark.; Nelson Radio & Supply Co., Mobile, Ala.; Teague Hardware Co., Montgomery, Ala.; Ray Thomas Co., Los Angeles.

UASTEST MOTOR-CAPACITOR SERVICING

Food's mighty perishable. And costly, too. And the family's health is simply priceless. Your responsibility is to safeguard that food by replacing womout motor capacitors without delay.



That's easy. Just ask your Aerovox distributor about Aerovox listings, the Capacitor Selector, and the Emergency Capacitor. They'll help you handle that replacement in a liffy.



INDUSTRIAL APPLICATIONS
AEROVOX CORPORATION

NEW BEDFORD, MASS., U. S. A. Export: 41 E. 42nd St., New York, N. Y. Cable Address: AEROCAP, N. Y. In Canada: AEROVOX CANADA LTD. Hamilton, Ont.

Circle No. 64 on Reader Service Card

FLOATING KITCHEN



IT'S A KITCHEN, all right—and there's plenty of refrigeration in it. But this kitchen is an hen new \$200,000 yacht "Westloke", said to be the largest private yacht built on the west coast since the 1920's. Built by Stephens Brothers for Henry Doelger, San Francisco home builder, the yacht's refrigeration equipment includes a 12-foot service bex, 10-foot quick-freeze compartment, and a 54-foot welk in box. An ice-holding compartment in built into the bar in the main salon, and there's a 1-ton air conditioning system, too, provided in anticipation of Central American cruises. The yacht, an 85-footer, is said to be about the size of an everage 5-room house.

PERUVIAN FIRM ENTERS AID CONDITIONING FIELD

United States Air Conditioning Corp. has appointed Peruvian Trading Corp., of Lima, as a distributor of its equipment in Peru and Ecuador, it was announced by R. A. Villacres, export manager.

According to Villacres, a virtually unlimited market for air conditioning equipment exists in Peru, where there are less than a half-dozen major installations at present. Only a few theaters are air conditioned, and even blowers for theater ventilation are rare, in spite of the equatorial climate.

An important step in its expansion into the air conditioning field was taken recently by the Peruvian firm when it engaged the services of Herman Watzinger, reported to be the only recognized air conditioning engineer in Peru.

N. Y. OFFICE MOVED

Dow Corning Corp. announces the removal of its New York City offices to 600 Fifth Avenue, New York 20. M. H. Langford is manager of the office,

The Parks Saver

To help you get the parts you need—and to save materials needed for defense production—Frigidaire offers these hints on conserving service parts.



3 WAYS OF CONSERVING COPPER TUBING

All too frequently, a recent study indicates, as much new copper is being used in modernizing and renovating as in completely new installations of similar type. Here's how valuable materials can be saved:

- 1. All reusable copper tubing already in a system should be salvaged by straightening, flushing, crimping the ends, and storing until needed.
- 2. Breaks in tubing should be spliced instead of replacing the entire length. In many cases, the tubing for the splice can be salvaged material. Splicing can be done with fittings, or by swaging the ends of the splice and then soldering it to the repair line.
- 3. Protect all tubing in the shop and on the job so that it does not become mashed, kinked or otherwise damaged.

REMEMBER:

- * Don't replace if you can repair
- ★ Proper diagnosis saves time, expense and parts
- * Rough handling causes wasteful damage

FRIGIDAIRE

Division of General Motors

Circle No. 69 on Reader Service Card

COMMERCIAL REPORT COMMERCIAL R

Sales Gain of Self-Serve Stores Underscores Merchandising Trend

More high-power ammunition for the merchandising of self-service commercial refrigeration equipment is contained in the report of a survey published by *Progressive Grocer*. Under the heading "Self-Service Independents Lead All Groups in 1950 Sales Gains", this survey presents figures which seem to prove again that self-service merchandising really pays off.

Still more important, from the standpoint of the commercial refrigeration dealer, is the fact that extensive modernization is listed first among the reasons why self-service

> Average Sales per store 1949

> > \$190,753

\$ 99,536

independents increased their sales 10.7% in 1950 compared with 6% for chains.

The report also reveals that approximately 53% of all independents, including small stores, were self-service in 1950. This indicates that some 47% of the 375,000 independents should be good prospects for self-service equipment.

The following chart presented in connection with this survey compares independent stores that have selfservice grocery departments to those that are semi-self-service or have only counter service:

Average Sales per store 1950	% Change
\$211,171	+10.7%
\$103,969	+ 4.5%
8 96,825	+ 1.0%

Counter Service \$ 95,866 SUPERS SPEND \$375 MILLION

ON STORE REMODELING

Self-service

Semi-Self-service

Super markets throughout the country, which last year had a combined sales volume of \$2,613,000,000, will spend in 1951 up to \$375,000,000 for new and remodeled markets, according to statistics revealed in the third annual survey conducted by the Super Market Institute. The larger part of this amount, this report shows, already is being expended.

52% of the institute's members plan to erect new super markets, the survey indicates, and 33% are planning major remodeling.

In all, 62% of the members intend to expand in 1951. The new supers will represent 21% of the total member super markets in operation as of the beginning of the year; 8% of the supers will be extensively remodeled.

If they carry out their plans, com-

panies with sales of \$5 million or less will proportionately do the most building and renovating.

NCRSA ADDS FOUR MEMBERS

Four more distributors of commercial refrigeration equipment have joined the ranks of the National Commercial Refrigerator Sales Association, according to a report from the group's headquarters.

These new members are: Hub Refrigeration & Appliance Co., Hattiesburg, Miss.; J. P. Pfeiffer & Son, Inc., Baltimore, Md.; Phillips-Summerlin Refrigeration Corp., Alexandria, La.; Fixture Mart, Inc., St. Louis, Mo.

BUY FROM YOUR REFRIGERATION WHOLESALER

NCRSA CONTINUES STUDIES OF BUSINESS METHODS

A report to members covering policies employed by the industry in compensating refrigeration servicemen who sell compressors, display equipment, and parts in connection with their servicing operations is one of the latest in the continuing series of business studies completed by National Commercial Refrigerator Sales Association.

A copy of this report may be secured on request directly to the as-

A RE you looking for a new "gimmick" to help promote the sale of home freezers? If so, how about the idea of a "dividend" to the customer in the form of a copy of a book on food freezer use?

Many such books are in print, of course, but one of the most interesting ones we have seen lately is "Making the Most of Your Food Freezer" by Marie Armstrong Essipoff (published by Rinehart & Co., Inc., New York; price \$3).

Informally written, it relates the actual trial-and-error experiences of a freezer user, and thus should have maximum appeal to new freezer buyers. Through suggesting new ideas for freezer use, discussing new techniques of food preparation, and presenting new recipes for the use of frozen foods, this sprightly book explains how the author actually manages to get more out of her freezer than she puts into it.

sociation's headquarters at 1900 Arch St., Philadelphia, Pa.

Another survey now in progress among association members will present information on the types of insurance carried by members, methods which may have been used to reduce its cost, and the type of insurance preferred.

The regular quarterly business conditions report of the association, comparing sales, inventories, and accounts receivable for the second quarter of 1951 compared with the same period of 1950 is scheduled for early release to members.

CONVENTION DATE SET

Fifth annual convention of National Commercial Refrigerator Sales Association will be held Monday and Tuesday, November 5 & 6, at the LaSalle Hotel in Chicago. This will tie it in with the Seventh All-Industry



Vimco means quality! Advanced engineering plus skilled craftsmanship make Vimco the choice for top performance — top satisfaction.







Pioneers of Stainless Steel Refrigerated Cases For complete information write for catalog



Model RS-60-S Available from 20 to 65 cu. ft. Remote and Self-Contained

Remote and Self-Contained

° VICTORY METAL Manufacturing corp.

1300 SOUTH FRONT ST. PHILADELPHIA 47, PA.

DISTRIBUTORS IN ALL PRINCIPAL CITIES

Circle No. 65 on Reader Service Card for more information

Refrigeration and Air Conditioning Exposition scheduled to be held November 5 through 8 at Chicago's Navy Pier.

ASSOCIATION PLANS NEW MEMBERSHIP LIST

Because of the number of new members which have joined the organization since its membership directory was printed last October, National Commercial Refrigerator Sales Association is planning the issuance of an up-to-date edition.

The new directory will include all distributors and manufacturers of commercial refrigeration equipment affiliated with the association, the names and titles of their officers, and the equipment handled.

NEW SWEDEN OUTLETS

Fosco Refrigeration and Distributing Corp. of Hagerstown, Md., and Shenandoah Valley Products of Laurel, Md., have been named authorized dealers by Sweden Freezer Mfg. Co., Seattle, Wash.

Fosco Refrigeration and Distributing Corp. is headed by Harry P. Cramer, and I. W. Berman is president and sales manager of Shenandoah Valley Products, which handles ice cream mix and flavors.

FRIGID-IGLOO NAMES JERSEY DISTRIBUTOR

Abe Gruber, 55 W. Jersey St., Elizabeth, N. J., has been appointed exclusive distributor for Frigid-Igloo Mfg. Corp., Yonkers, N. Y., frozen food case manufacturer, in the state of New Jersey.

METER PLAN SELLING GAINING, SURVEY SHOWS

The "meter plan" method of merchandising commercial refrigeration has been on the increase as competitive conditions in the industry have tightened, according to results of the fourth annual survey recently completed by International Register Co., Chicago.

The 1951 survey was compiled from completed questionnaires submitted by 449 commercial refrigeration dealers, a cross-section of the industry including small and large dealers and those located in metropolitan areas as well as in rural communities.

72% of the dealers answering the 1951 study reported that they were using the meter plan in their sales efforts. This compares with 61% who so reported in 1950, and 46% in 1949. Sales by 10 dealers in the survey amounted to more than 300 units each per vear.

92% of the dealers who answered the International Register questionnaire said that, in their opinion, the meter plan helped them to increase their sales. 44% expected 1951 sales to be higher than those of 1950, 51% thought their sales would be about the same as last year, and only 5% expected their 1951 volume to be below that of 1950.

39% of the reporting dealers said that they carried the meter plan financing themselves. Local banks, finance companies, and the manufacturers handled the remainder of the

11% of the dealers said they sold equipment with no down payment, 30% asked for up to 10% down payment, and another 30% reported that their down payment requirements were as high as 20% in some cases. 73% of the dealers replying said they had no repossessions on their meter plan sales.

43% of the dealers used one or more media to advertise the meter plan, and 56% of those dealers advertising used direct mail. 23% used more than one media.

SELF-SERVE COOLERS USED AT CAMP POLK

When soldiers at Camp Polk, La., want a cold drink, they can get a bottle of their favorite soft drink or beer from any of 125 LaCrosse bottle coolers installed around the post.

The coolers are said to be arranged so that the men can serve themselves, putting a heavy load on the 1/2 hp Servel hermetic units powering the beverage units.

Condensing units are mounted in small outdoor enclosures, and their sealed design protects moving parts from dust, rust and atmospheric changes.

CHANGE IN FIRM NAME

Utility Refrigerator Co. is the new firm name which has been adopted by 20-year-old Refrigeration Distributors, Los Angeles manufacturer of commercial refrigerators, display cases, beverage coolers and reach-in boxes. The trade-name "Utility" has been used by the company for several years to identify its products. Offices and showrooms of the company are at 4621 W. Washington Blvd., Los Angeles. The company announces that no changes have been made in ownership, management, personnel or policy.

ANDREWS RETIRES FROM **G-E AFTER 41 YEARS**

Hardage L. Andrews, an executive vice president of the General Electric Co., who during his career has been prominent in both the transportation and home appliance industries, has retired from the company after 41 vears of service.

He will be succeeded by Robert Paxton, G-E vice president in charge of manufacturing policy.





DEAN PRODUCTS, INC.

STerling 9-5400

Write for Technical Data Bo

Plates also available for Bandelot-type Coolers



There's always one that's better... and in controls it's Ranco!

It's easy to see that Ranco is the first choice
of expert refrigeration men-more Ranco controls

are in use than any other kind. How many? More
than 35,000,000! Use genuine Ranco controls-available
for more than 4,000 replacement installations.





WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS

Circle No. 68 on Reader Service Card for more information

HERE'S HOW!

Edited by Warren W. Farr

How Much Do You Know About Your Customers?

How much do you know about your customers' refrigeration equipment? If you're the kind of service company you should be, you know plenty.

Your information file on each of your customers should show a case history of all his refrigeration and air conditioning equipment. This should cover condensing unit and cabinet data, belt sizes, make and age of equipment, and any other information that will give you a quick check to help you handle his service calls faster.

Better pick a good-size "card" (8½ x 11, for instance) for this information, for you'll want to record also the dates of all service calls you made on the equipment, what work

FAN

THE fan motors used on certain hermetic condensing units are sometimes supplied by a manufacturer who makes no provision for their being oiled in the field. As a result, many of these fan motors are needlessly ruined and discarded when this waste could be easily prevented.

When I encounter a fan motor of this type, either new or used, I punch a small hole in the housing opposite the fan end of the motor, place a spoonful or more of oil in the motor, and then screw a sheet metal screw into the punched hole.

Charles A. Ehret, Kirbyville, Tex.

was recommended, and what work was actually done. This information will tell you what to expect when a service call comes in.

For instance, if your latest call report shows that you recommended new belts for a certain job, and that the customer decided to put this off for a while, you can figure that the belts will be a problem on this call, among other things. Or, if the job has a "history" of one particular type of trouble, as shown on your file card, you have a pretty good idea of what you can expect. If you don't happen to have the part you expect to need in stock, you can pick it up from your wholesaler en route.

Keeping up-to-date card records of your customers' jobs will save you time—and help you make more calls and more profits—when the rush season's on, and they make a swell prospect list for check-up calls when things are slack.

Moisture Is Your Enemy

A few drops of water accumulated at the expansion valve orifice may freeze it shut or open and put the whole system out of operation. Also, water can interact with refrigerant and oil to form sludge or gum which may subsequently clog the valve. For these and other reasons, moisture is the refrigeration man's Enemy No. 1.

Moisture in the form of water vapor is ever present in the air. It will condense into liquid in contact with any cold surface. Inner surfaces of a cold refrigeration system will condense water from any air which has been allowed to enter the system. Therefore, opening a cold system to the at-

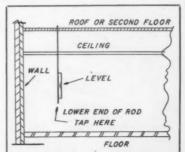
BUY FROM YOUR.
REFRIGERATION WHOLESALER

mosphere is inviting moisture trouble.

Leaving a pound or two of low side pressure when opening a system provides an outward flow of gas which tends to keep out moisture bearing air, but is not always entirely effective. Water vapor may flow counter to the gas flow, thus introducing moisture into the system.

Drying out a refrigeration system requires a careful procedure. Small packaged systems are dried by the manufacturer, but where units must be assembled in the field, thorough drying becomes a difficult problem.

Three methods of drying units in the field are in general use: (1) a combination of heat and vacuum; (2) chemical dryers; (3) liquid dehydrants.



In RUNNING pipes through hot, low attics, or where a building's second floor can't be reached from the lower floor ceiling by an ordinary wood bit, I use a sharp pointed rod to punch a hole for drilling. This rod should be long enough so that a level can be laid against its lower end in order to get perfect alignment for the hole to be prepared.

Once I have centered the point of the rod on the spot on the ceiling where the hole is to be, I then tap the lower end of the rod until the point projects through the roof or floor. The finished hole then can be drilled through from above.

Clyde Juneau, Shreveport, La.

LOOK to LARKIN

for Durability



CROSS-FIN COIL

The refrigeration coil that changed an industry stands today unchallenged for performance, user satisfaction and lasting durability. Made from only the finest materials by skilled craftsmen under exacting standards, every Larkin Coil features imbedded fin-to-tube contact, swaged connection, silfos welded construction, and staggered tubing. Write for complete details.

Manufacturers of the original Cross-Fin Cell — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Colls — Direct Expansion Water Coolers — 3 teel Vacuum Plate Coils — Heat Exchangers.







Circle No. 71 on Reader Service Card

PLAY IT SAFE!

FINGER-RING ACCIDENTS

By George J. Schuld International Safety Director, RSES

A N OLD and sentimental superstition holds that it is bad luck to remove a wedding or engagement ring. That may or may not be true, but we can't help but feel that it is even worse luck to lose a finger or a hand because of failure to remove a finger ring while working. Our accident files contain a surprising number of case histories of servicemen who have done just that.

In one instance the mechanic had hold of a refrigeration compressor and while trying to set it down caught his ring on an angle iron projecting from the machine. When he released his grip, the entire weight of the unit was held by the ring, which mangled the finger so badly that amputation was neces-

In another recorded case a serviceman caught his finger ring on the bottom of a compressor in such a way that when he set the compressor down the weight of the unit mashed the ring into the finger, cutting deeply into the flesh and causing considerable pain. There was no way to remove the ring but to use a file, and in such cases there is always the danger of filing entering the wound and causing infection.

Sentiment is a wonderful thing, and we're all for it. But we're sure that wives and sweethearts will have no objection to their men-folk removing their rings while doing any manual labor if they clearly understand that this simple act will not only keep the ring from being damaged but a finger or a hand as

There's a Safer Way!

Entrop

I noticed in the "Here's How" section of the July issue of your publication an article describing a method of checking for pinhole leaks in low side float balls. The suggested method involved immersing the ball in carbon tetrachloride and watching for bubbles.

I should like to point out that such a procedure definitely is not in line with established safety practices, as the hazards of using "carbon tet" are well known (see "Play It Safe!" on page 86 of that same issue).

It would be better to submerge the ball in water to watch for bubbles, although even then there is a chance of the ball exploding if there is any great amount of refrigerant in it. If the hole is large enough so that the refrigerant will be pumped out of the ball when the evaporator is pumped down, then it can be readily located by visual inspection. If the hole is too small to see, on the other hand, then some refrigerant will still remain in it after the evaporator is pumped down and the presence of this liquid can simply—and safely—be detected by simply shaking the ball.

Another safe and sane method is to weigh a brand new ball on a postal scale and then weigh on that same scale the ball suspected of containing refrigerant. That would tell you the story the safe way.

Yours for safety,

GEORGE J. SCHULD International Safety Director, RSES

A LMOST all Frigidaire compressors with the old metal gaskets give trouble at some time and there is always, it seems, a minimum of space above the compressor head to change the gaskets without removing the compressor body.

I solved this problem nicely the other day by using a piece of tin slightly larger than the area of the plate. After removing the old gaskets, the ever-present problem of the falling head bolts interfering with the replacement of all parts is simplified by placing the tin under all bolts and raising them at one time, while sliding the plate and gaskets in their place. The tin then slides out and the bolts may be easily slid into place.

Harold J. Huber, Bothell, Wash.

An Easy Way to Get Paint off the Hands

Those of us who do any considerable amount of work with a paint spray gun usually find that after we've finished a particular job we've done a fairly substantial "paint job" on our hands, too. This may be due to the action of the spray gun or to smears we've picked up in cleaning the equipment. The first thought probably is to use paint thinners to remove the stuff, but all of these have some disadvantages, not the least of which is that they have an undesirable effect on the skin of the hands. Here's an easier way to do it: First, wash your hands with heavy soap solution, and let it dry on the hands without wiping. Then, after you've finished the spray job, the paint will come off easily. That's because the soap film is between paint and skin.

BUY FROM YOUR REFRIGERATION WHOLESALER

OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted," \$4.00 minimum, limit 25 words. For all other classifications, \$4.50 minimum for 25 words or under, each additional word 15s, boldface type or all capitals, \$7.50 minimum for 25 words or under, each additional word 20s. Box addresses count as five words, other addresses by actual word count. All advertisements in this section are payable in advance.

TRAINING AVAILABLE

Course on sealed unit rebuilding trade secrets disclosing exclusive methods for all operations, \$12.50 or write for details. H. Custer, Box 98, Center Line, Michigan.

BAKER NAMES NEW COAST DISTRIBUTOR

Baker Engineering Corp. has been appointed a prime distributor for Baker air conditioning and refrigeration equipment in the Southern California area.

The new firm will continue the sales, contracting, manufacturing and service operations that have been performed by the Baker factory branch in Los Angeles since its establishment 29 years ago. The business will be carried on from 351 S. Anderson St., Los Angeles, the same premises as occupied by the Baker branch.

Officers of the new corporation are C. E. Hollingworth, president and

general manager; Hayes T. Cory, vice president and chief engineer; T. H. Shonfeld, treasurer and assistant chief engineer and Neal S. Templin, secretary. All of the officers except Templin have been with Baker Refrigeration Corp. and its predecessor, Baker Ice Machine Co., for many years.

By the establishment of this new distributor in Los Angeles, Baker is retiring from direct consumer sales and contracting in this area, but will continue to maintain a warehouse stock and district office at 351 S. Anderson St., Los Angeles to serve its distributors and dealers and the trade. This will remain under the direction of C. E. Hollingworth, district manager.

N-K TO BUILD ENGINES

Nash-Kelvinator Corp. has announced receipt of a letter contract from the U. S. Air Force to build large quantities of Pratt & Whitney R-2800 "Double-Wasp" aircraft engines. The engines will be assembled in Kenosha, Wis., and some component parts will be produced in existing buildings in Milwaukee and Kenosha. According to George W. Mason, president and chairman, N-K's ability to produce its regular lines of equipment will not be impaired by the new aircraft engine program.

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Circle No. 72 on Reader Service Card for more information and AIR CONDITIONING • SEPTEMBER, 1951

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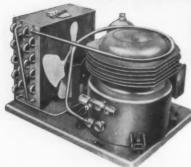
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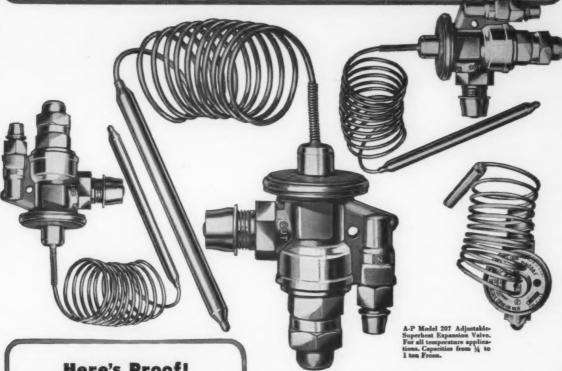
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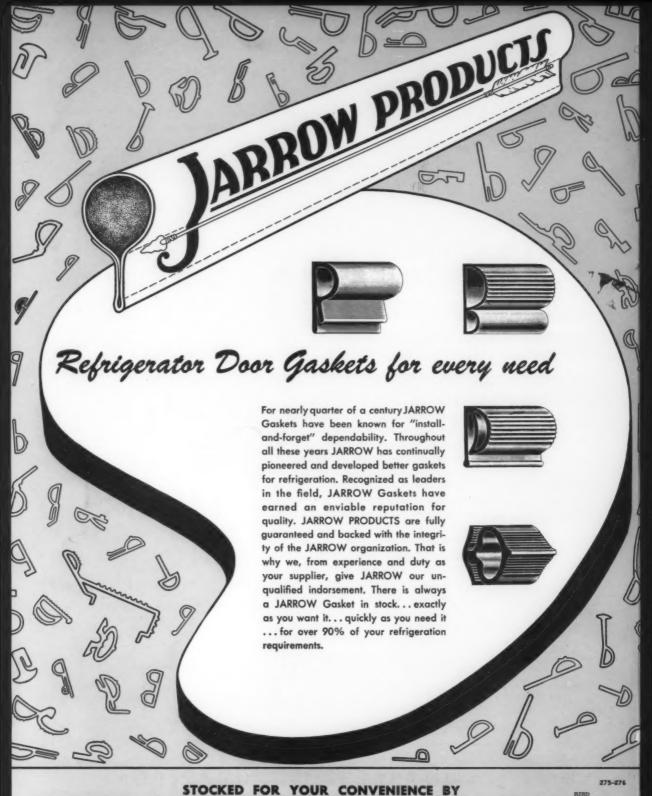
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